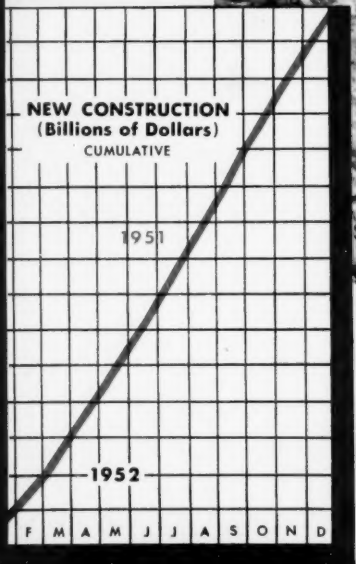
The CONSTRUCTOR

OFFICIAL PUBLICATION OF THE ASSOCIATED GENERAL CONTRACTORS OF AMERICA

Volume XXXIV **FEBRUARY 1952** Number 2

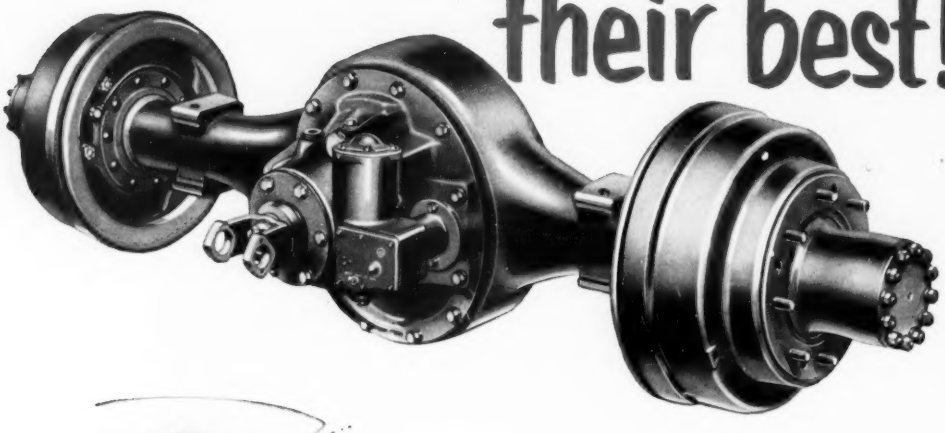
- BUILDINGS
- HIGHWAYS
- AIRPORTS
- RAILROADS
- PUBLIC WORKS

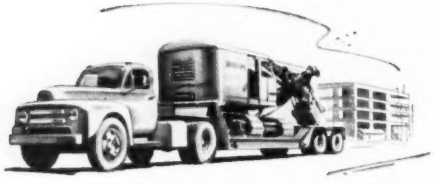


Move to Offset Wunderlich Ruling Effects—25

$7.4 Billion Federal Construction Budget—29

give your truck engines a chance to perform at their best!





These Exclusive Eaton Features Keep Trucks on the Job, Reduce Upkeep, Add Thousands of Miles to Axle Life—

- **PLANETARY GEARING**
- **FORCED-FLOW LUBRICATION**

SPECIFY Eaton 2-Speed Axles; they double the conventional number of gear ratios, enabling drivers to select a ratio for pulling power or speed, a ratio best suited to road and load conditions. This permits engines to operate in their most efficient and economical speed range, cuts gas and oil consumption. It reduces stress and wear on engine and power transmitting parts, holds maintenance time and cost to a minimum, adds thousands of miles to engine and over-all vehicle life. Your dealer will explain how Eaton 2-Speed Axles will help your trucks haul more, faster, at lower cost. They pay for themselves over and over, and give trucks materially higher trade-in value.

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AXLES

PRODUCTS: Sodium Cooled, Poppet, and Free Valves • Tappets • Hydraulic Valve Lifters • Valve Seat Inserts • Jet Engine Parts • Rotor Pumps • Motor Truck Axles • Permanent Mold Gray Iron Castings • Heater-Defroster Units • Snap Rings Springtites • Spring Washers • Cold Drawn Steel • Stampings • Leaf and Coil Springs • Dynamatic Drives, Brakes, Dynamometers

Another Goodyear

EYE-OPENER

—in the public interest—and yours!

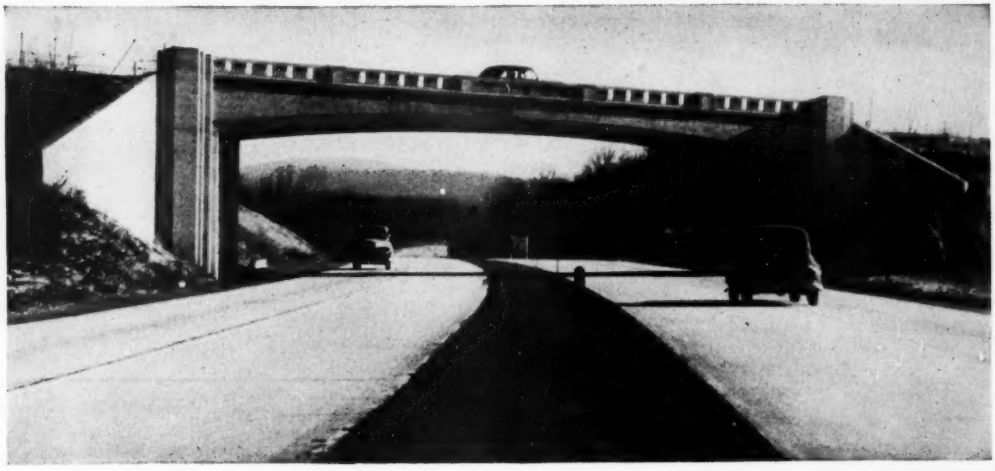
To help you help America get the *modern* highway system we all need so desperately, here is another in Goodyear's precedent-setting series of two-page, full-color advertisements in multimillion circulation news magazines.

Another reason why it pays always to BUY and SPECIFY

GOODYEAR

THE GREATEST NAME IN RUBBER

High-Level Performance!



Lone Star Air-Entrained Concrete Used for Easier Placing and Extra Durability on Well-Designed Bridges for Nation's Greatest Turnpike

ONE OF MANY bridge structures on Eastern Extension of Pennsylvania Turnpike, concreted with LONE STAR AIR-ENTRAINING PORTLAND CEMENT. Bridge, above, built by H. T. OSBURN CO., Franklin, Pa., under subcontract with H. J. WILLIAMS, INC., York, Pa., General Contractor.

★ Ever since its first use on public highways, in 1939, LONE STAR AIR-ENTRAINING PORTLAND CEMENT has played a steadily growing part, not only in paving many of the nation's principal highways and airports, but in concreting important structures of all kinds as well.

To the uniformly high chemical and physical quality characteristics for which all Lone Star Cements are noted, dependable air-entraining properties are assured by inter-grinding carefully controlled quantities of a tested air-entraining agent at time of manufacture.

Field performance over the entire range of construction shows that Lone Star air-entrained concrete mixes have better workability and plasticity, are practically free from bleeding and segregation, and provide greatly increased durability.

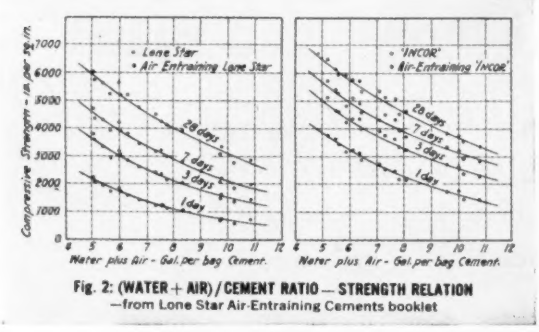


Fig. 2: (WATER + AIR) / CEMENT RATIO — STRENGTH RELATION
—from Lone Star Air-Entraining Cements booklet

Useful Information

Write for new, 36-page, illustrated booklet, summarizing field and laboratory experience with air-entrained concrete . . . with numerous tables and graphs, example at left. Practical information for designing new or adjusting established mixes, estimating materials, quantities tables, etc. For your copy of Lone Star Air-Entraining Cement Booklet—address Lone Star Cement Corporation, Room 1503 100 Park Avenue, New York 17, N. Y.

LONE STAR CEMENTS COVER THE ENTIRE CONSTRUCTION FIELD

LONE STAR CEMENT CORPORATION

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LONE STAR CEMENT, WITH ITS SUBSIDIARIES, IS ONE OF THE WORLD'S LARGEST CEMENT PRODUCERS: 17 MODERN MILLS, 125,000,000 SACKS ANNUAL CAPACITY

The CONSTRUCTOR

BUILDINGS • HIGHWAYS • AIRPORTS RAILROADS • PUBLIC WORKS

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COVER

Construction in Switzerland poses many challenging problems. On this month's cover is a singular solution for the problem of transporting 380 tons of cement per day to the Oberaar dam site, 7,870 ft. above sea level. Containers are loaded on a train at the cement factory and taken to Oberalp, 4,300 ft. high, where they are loaded on aerial cables which rise to over 9,000 ft. and then descend to the site. Every 72 seconds a container starts its 7-mile round trip over the course at about 8 mi. per hour. Some 500,000 tons will be moved in this manner to the site where mixing machines and silos have been erected. Full story in pictures on page 54. (Black Star photos on cover and page 54.)

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C.I.T. CORPORATION

Industrial Financing

ONE PARK AVENUE, NEW YORK 16, N Y

S. D. MADDOCK
PRESIDENT

February, 1952

Dear Mr. Contractor:

In the light of all the estimates that I have seen, it is becoming more and more reasonable to expect a good volume of construction in 1952. We have two suggestions to make:

1. Check over your fleet. Will you need more equipment?

2. Project your cash position for the entire year, if possible. Will you be in a tight cash position at any time during the year?

In either case, our financing service will help you by providing the funds for the purchase of new equipment or by providing working capital advances against equipment that you now own. Repayment periods are geared to your needs.

A call or a letter to one of the offices listed below will give you all the facts.

Yours truly,

S. D. Maddock

One Park Avenue
NEW YORK

221 N. LaSalle St.
CHICAGO

750 Leader Building
CLEVELAND

66 Luckie St. N. W.
ATLANTA

1007 Preston Ave.
HOUSTON

416 W. 8th St.
LOS ANGELES

660 Market St.
SAN FRANCISCO

Metals pinch is upon us, and here to stay into 1953, mobilization officials warn, as country reaches mid-point between start of Korean war and goal of build-up defense and industrial production, set for summer of next year. Copper is in poorest supply and outlook and abundance of aluminum from new plants is not scheduled to help civilian output until next year. (Page 21)

Structural steel, however, the bugaboo of construction industry for many months, may go begging by late 1952 if National Production Authority doesn't devise a method to encourage advance planning of construction projects, the steel industry warns. NPA has indicated consideration of okaying projects for future quarterly allotments so builders can go about their preliminary planning. (Page 21)

Major NPA construction controls probably will be placed in one document, according to plans now being worked on by the agency, which already has sent proposed draft to members of its Construction Industry Advisory Committee. This group to meet again with agency this month. Housing is to be omitted, placed in separate regulation to be drafted and administered by Housing and Home Finance Agency. (Page 22)

President Truman's 3 January messages proposed an extensive list of legislation, including more taxes, stronger and extended controls, a big defense housing and community facilities program, the St. Lawrence and other power projects, school construction program and several Fair Deal measures. (Page 22)

A 5-year atomic energy expansion program to cost $5 to $6 billion was indicated by the President, who was to send request to Congress for obligational authority to get it started. Not expected to have much impact in fiscal year 1953, when about $1 billion of it is slated for construction.

Denial of 73.4% of the final 507 applications for first quarter allotments to building commercial, religious, entertainment and community structures was announced by NPA with the warning that even smaller allocations for the second quarter will permit the start of commercial and institutional projects only in cases of emergency. (Page 21)

Wunderlich case Supreme Court decision has brought introduction of bills in both Houses to offset effects of ruling whereby proof of fraud on part of government is required to challenge finality of a department head's decision in contracts. Bills are expected to serve as basis for public hearings this month, at which A.G.C. will appear. (Page 25)

Construction employment reached 2.8 million in August, 1951, highest in history of the industry and 233,000 more than in August of 1942, record employment month for the industry during World War II, according to Department of Labor's Bureau of Apprenticeship.

Construction volume in January reached near-record levels with a total of $2.1 billion in new construction put in place—a slight rise over January 1951 but 4% less than December volume. Public expenditure for new construction in January was $667 million or 31% more than a year ago, while private outlay was $1.5 billion. Industrial and other types of non-residential advanced and residential declined.

Safety booklets, pocket size, have been published by the A.G.C. to enable construction workmen to take safety instructions to the job. The 14-booklet series has been reprinted from the association's *Manual of Accident Prevention in Construction,* recently approved by the American Standards Association. (Page 63)

Second quarter allotments for construction reflect the increasing tempo of defense expansion with less essential construction being brought to a virtual halt. There will be enough to continue the 2,400 schools underway and permit 500 new starts, but an inadequate share for highways will mean cessation of some projects already commenced. (Page 23)

Anton E. Horst, A.G.C. president in 1930, died Jan. 5 at the age of 66. Mr. Horst was known throughout the industry for his leadership during the trying days of the '30's. (Page 48)

Construction's budget for fiscal '53 is $7.4 billion with $3.8 billion for civil works, lower than last year, and $3.6 billion for defense construction, 29% higher than last year. Though total federal budget for $85.4 billion is $14.5 billion above anticipated receipts, it is estimated that only about $5 billion will be pared away because of election year pressures. (Page 29)

Outlays for new plants and equipment in first quarter will be $5.8 billion, 18% above 1951 period, with all major industries expanding, according to government survey. (Page 22)

Renegotiation regulations to put 1951 Act in operation expected to be issued in final form this month. Renegotiation Board will send forms to contractors doing work related to defense. (Page 26)

Construction equipment manufacturers and distributors met with price officials to discuss proposed, tailored regulation to include rentals as well as sales. Price order is expected to be issued this month. (Page 46)

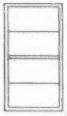
Federal-aid highway bills S. 2437 and H. R. 6094, authorizing $750 million and $400 million respectively, have been introduced, and A.G.C. is preparing testimony. House bill approximates budget estimates while Senate bill is closer to recommendations of the American Association of State Highway Officials.

33rd A.G.C. convention to be held in Detroit, Feb. 25-28, will accent major problems of construction industry for 1952 at its general sessions and division meetings. Michigan host chapters have planned an outstanding program of entertainment for men and women who attend. (Page 49)

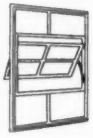
St. John's Hospital, Santa Monica, Calif. John W. Maloney, Seattle, Wash., Architect. Pozzo Construction Company, Contractors.

Architect John W. Maloney says:

"The Truscon line enabled us to fill every window need in the beautiful new St. John's Hospital"



Strikingly beautiful is this new St. John's Hospital in Santa Monica, California. Well-illuminated and well-ventilated with Nature's free sun- light and fresh air, because it is well-windowed with Truscon steel units. Truscon Series 46 Double-Hung Steel Windows complement the sweeping, modern architectural lines; admit ample daylight; operate easily; require an absolute minimum of maintenance. Truscon Intermediate Projected Steel Windows with dual ventilators permit ample, controlled flow of air in inclement weather. Truscon Commercial Projected Steel Windows lend flowing lines and proper ventilating facilities to the service units. Truscon Steel Screens provide economical, long-life screening. See SWEET'S for complete details on the entire line of Truscon Windows for every purpose; and write for detailed literature on all other Truscon Steel Building Products. Truscon® Steel Company, 1100 Albert Street, Youngstown 1, Ohio. Warehouses and Sales Offices in Principal Cities.



Subsidiary of Republic Steel Corporation.

TRUSCON MARK OF MERIT PRODUCTS

TRUSCON a name you can **build** on

A Series of Graphs Outlining the Construction Trend

Compiled by The Associated General Contractors of America

TREND OF CONSTRUCTION COSTS

The average of construction costs in the principal construction centers of the United States for January stands at Index Number 380, according to the A.G.C. Index. The cost figure for January 1951 was 374. The 1913 average equals 100.

WAGE AND MATERIAL PRICE TRENDS

The average of wages in the principal construction centers of the United States stands at 512 for January. One year ago the average stood at 494. The average prices paid by contractors for basic construction materials for January stand at Index Number 292. The average a year ago stood at 292. The 1913 average, again, equals 100.

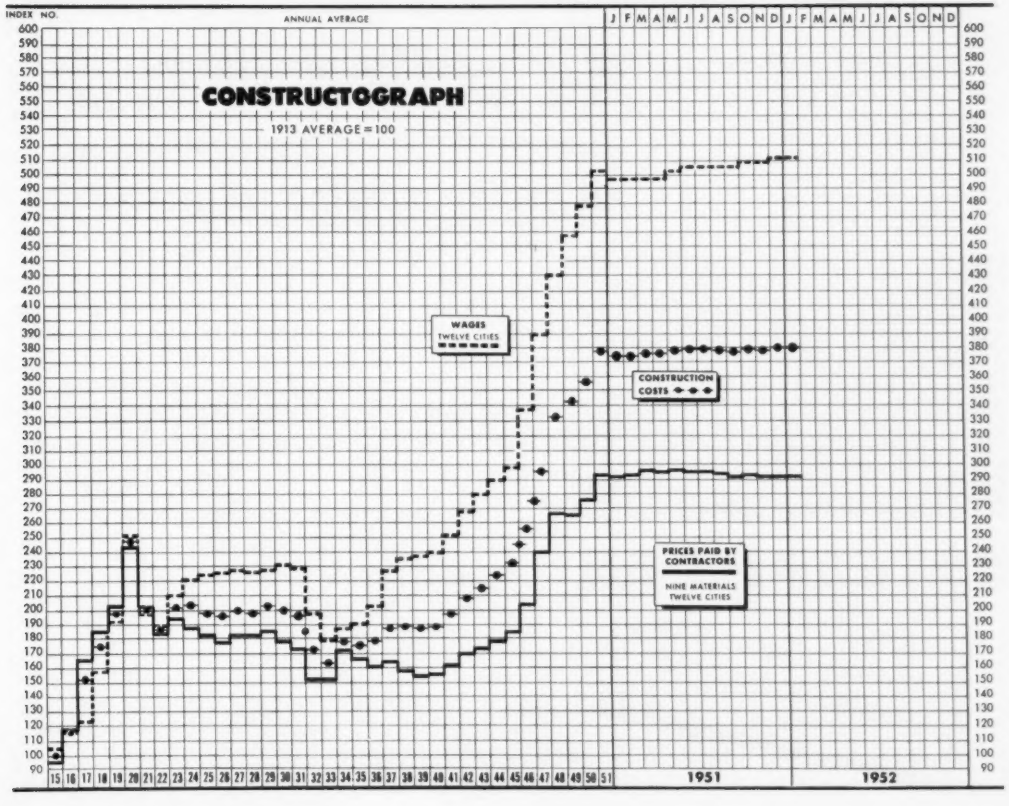
CONTRACT AWARDS IN 37 STATES

The volume of contracts awarded during December (Index Number 246, based on 1936-1938) is an increase of 60 points from November, and an increase of 7 points from December 1950.

REVENUE FREIGHT LOADINGS

Revenue freight loaded during the first 3 weeks of 1952 totaled 2,103,199 cars. For the same period in 1951, loadings amounted to 2,225,192 cars. This represents an increase of 5.4 per cent.

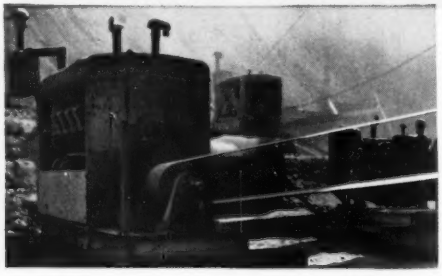
● Wage, Material Price and Construction Cost Trends



A "Cat" D17000 runs the mixer, a D8800 the dryer, and a D315 the dust collector in the asphalt plant. A D17000 drives the portable crusher that supplies the aggregate. A "Cat" D8 Tractor with No. 8S Bulldozer stockpiles and feeds material at the plant.

He called it luck

but quality manufacture started it



CATERPILLAR
REG. U. S. PAT. OFF.

DIESEL ENGINES
TRACTORS • MOTOR GRADERS
EARTHMOVING EQUIPMENT

LONG periods of good performance in any power-producing machine depend on these major factors: *Good design, good construction, good care and good dealer service.*

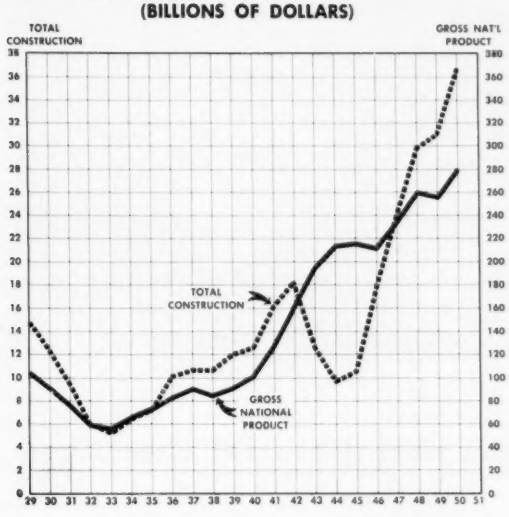
The four "Caterpillar" Diesel Engines powering the Peter Kiewit Sons' Co. crusher and hot mix plant near Agoura, Calif., are proving they have *all* it takes to do a good job — while thousands of their mates are doing likewise all over the world. Many have run up records of 50, 60, 70 and over 100 thousand hours of operation — and they are still on the job. By proved field performance, the "Cat" Engines mentioned here are still young.

NOTE — Are *you* a "Caterpillar" owner? Remember: *Good care is good preventive medicine.* It takes only a few minutes to check starting, fuel, lubrication and cooling systems. It's no trouble having your "Caterpillar" Dealer inspect your equipment regularly. And when necessary, he can readily rebuild working parts before they become worn beyond repair. Good forethought is good business.

CATERPILLAR TRACTOR CO. • PEORIA, ILLINOIS

● TOTAL Construction compared with Gross National Product

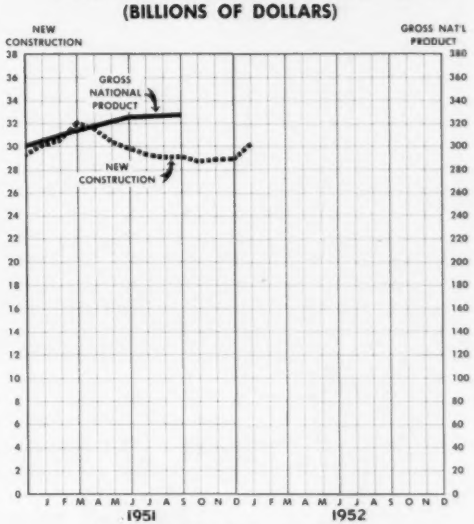
(BILLIONS OF DOLLARS)



DATA SUPPLIED BY DEPT. OF COMMERCE

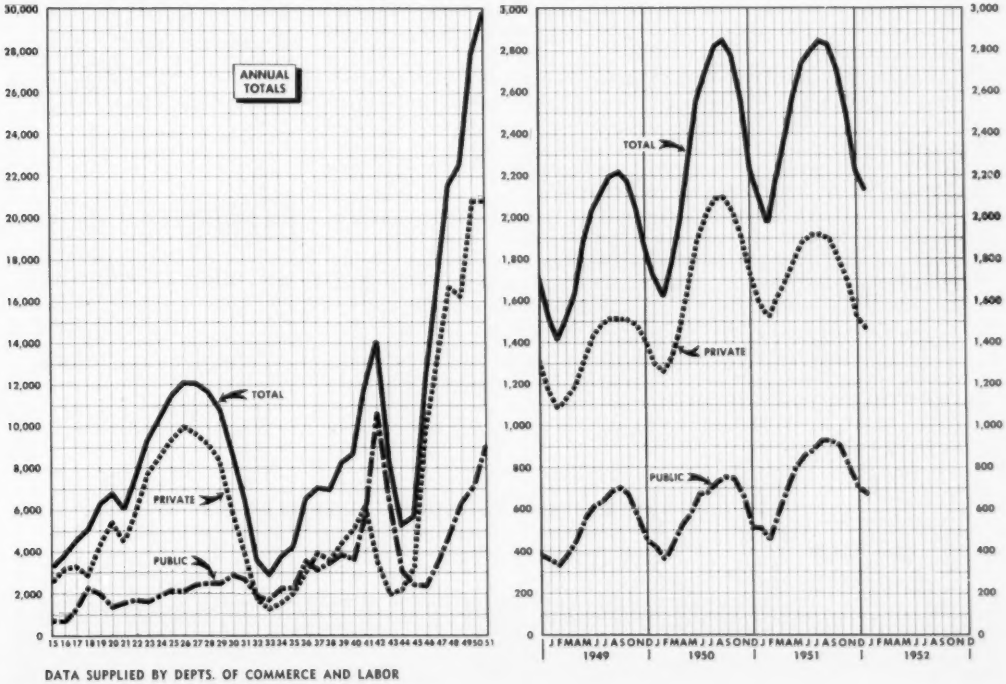
● NEW Construction compared with Gross National Product*

(BILLIONS OF DOLLARS)



** Seasonally adjusted at an annual rate*

● New Construction Activity (MILLIONS OF DOLLARS)



DATA SUPPLIED BY DEPTS. OF COMMERCE AND LABOR

West Contra Costa Hospital-Ceco Reinforcing Bars

How 3 hospitals met material shortages ... Saved money too!

In every part of the nation there's need for more and more hospitals today. And with typical western vigor California is doing much about it with an ambitious building program.

One of the problems facing Stone and Mulloy, architects for the structures pictured here, was availability of materials. To solve this problem reinforced concrete skeleton construction was selected. Ceco reinforcing bars were used on all three projects, with Ceco providing complete shop and field erection details. Concrete joist construction was chosen for the floor systems—and here, on two of the projects, Ceco met the need with Ceco Meyer Steelforms.

So three new hospitals are added to the California Skyline. And critical shortages are solved, for reinforced concrete construction saves steel.

Then too, there were further advantages in building the floor systems with the Steelform method: (1) savings in men because less time and labor were required, (2) savings in money because less concrete and lumber were needed, and (3) savings in material because here too, a minimum of steel is necessary.

To help you in design or construction problems a nationwide staff of competent engineers stands by to serve you. So call on Ceco—for in construction work CECO ENGINEERING makes the big difference.

Contractors for these three projects include: Parker, Steffens & Pearce—Williams & Burroughs, Inc.—Carl N. Swenson & Co.—Architects; Stone & Mulloy.

Peninsula Hospital
Ceco Meyer Steelforms
& Reinforcing Bars

Eden Township Hospital
Ceco Reinforcing Bars

CECO STEEL PRODUCTS CORPORATION

General Offices: 5601 West 26th Street, Chicago 50, Illinois

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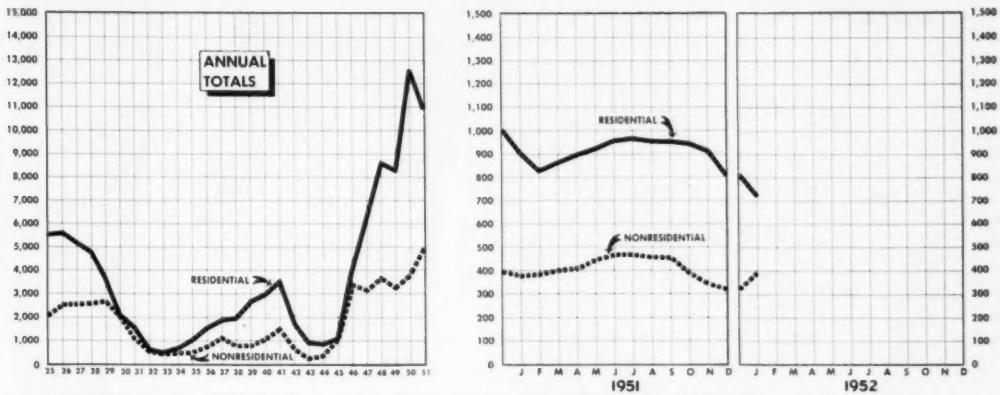
In construction products **CECO ENGINEERING** *makes the big difference*

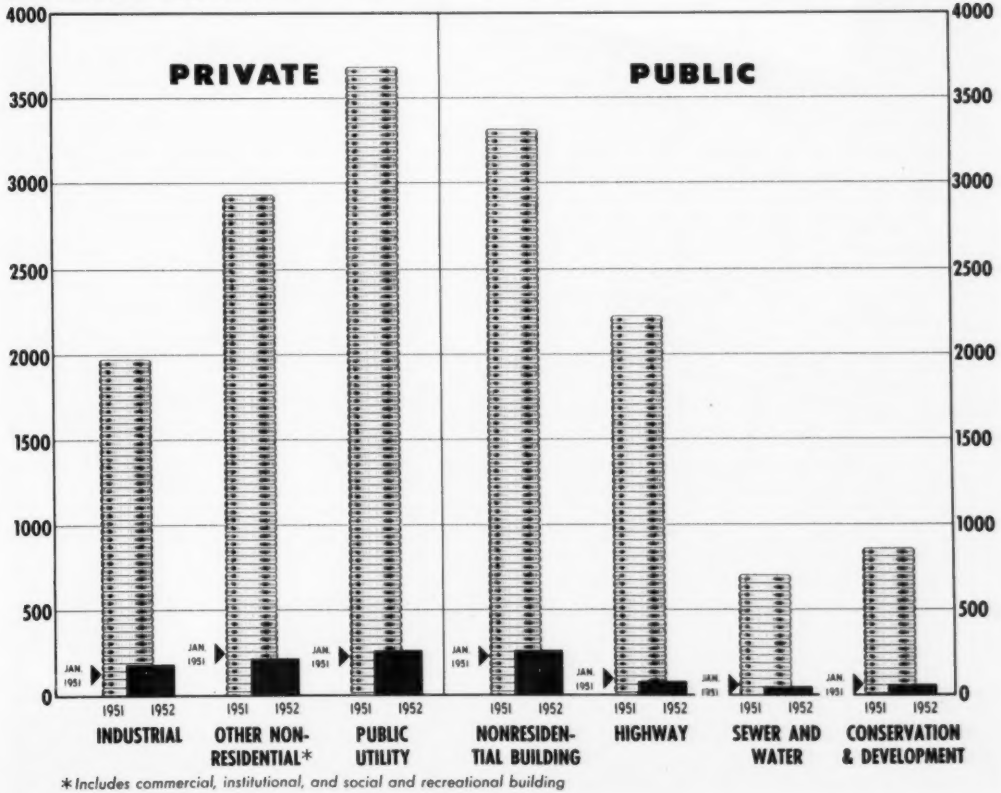
NEW CONSTRUCTION ACTIVITY

● Private Residential and Nonresidential Building* (MILLIONS OF DOLLARS)



* Residential excludes farm; Nonresidential includes industrial, commercial, institutional, and social and recreational building, but excludes public utility building.

● Selected Types: (CUMULATIVE, MILLIONS OF DOLLARS) 1951 and 1952 VOLUME THROUGH JANUARY



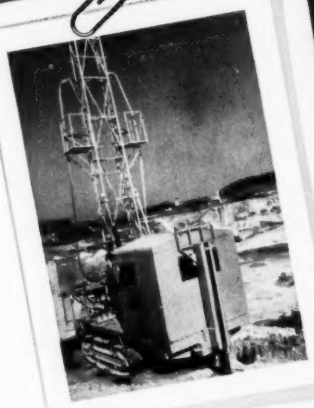
*Includes commercial, institutional, and social and recreational building

GM Diesel
Case History No. 5011-27

USER: Thomasville Stone and Lime Company, Thomasville, Pennsylvania

INSTALLATION: 3-71 and 6-71 GM Diesels power Joy Heavyweight Champion blast hole drill; 3-71 for rotary and propulsion, 6-71 on compressor and "pulldown."

PERFORMANCE: Replaced 5 small drills. Maximum footage with previous equipment 15 feet per drill in 6¼ hours; with new equipment 180 feet in 6¼ hours. Reduces drilling manpower. Fuel consumption: less than 7 gallons per hour (both engines).



This Diesel replaces five drills

— and more than doubles the footage

Case after case proves that any machine with General Motors Diesel power is a *better* machine —gets more work done at *lower* cost. Using General Motors 2-cycle design—this Diesel packs more power per pound, runs smoother and accelerates faster. Result—greater production per hour! With most parts interchangeable and easy to replace—GM Diesels take less time out for servicing, cost less to maintain. Check it with other operators—prove it for yourself by specifying GM Diesel power in any equipment you buy.

DETROIT DIESEL ENGINE DIVISION
GENERAL MOTORS, DETROIT 28, MICHIGAN

SINGLE UNITS... Up to 275 H.P. MULTIPLE UNITS... Up to 800 H.P.

It pays to Standardize on

GM
GENERAL MOTORS
DIESEL POWER

For Moderate Income Families in Large Cities

(Formerly referred to as the "Cost of Living Index," compiled by the Bureau of Labor Statistics)

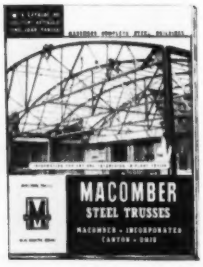
THIS table indicates the average changes in retail prices of selected goods, rents and services bought by the average family of moderate income from October 15, 1949 to December 15, 1951.

They are presented here for use by employers who may wish to take these cost of living data into consideration when contemplating adjustments of wages based on increased living costs.

The Bureau of Labor Statistics surveys 10 key cities every month and 24 other large cities quarterly. Prices are obtained on food, fuel, apparel, house furnishings and miscellaneous goods and services. Rental information is obtained quarterly only for all cities. The computations are based on the indexes for the years 1935-39, which are taken as the average of 100 points.

	1949			1950			1951		
	OCT. 15	NOV. 15	DEC. 15	OCT. 15	NOV. 15	DEC. 15	OCT. 15	NOV. 15	DEC. 15
Average	168.5	168.6	167.5	174.8	175.6	178.4	187.4	188.6	189.1
Birmingham, Ala.	170.3	170.5	168.4	179.1	180.3	184.0	196.0	196.3	196.0
Mobile, Ala.	.....	.....	167.4	.....	.....	176.6	.....	.....	187.3
Los Angeles, Calif.	166.5	166.6	165.4	171.3	173.2	175.8	187.9	189.6	190.4
San Francisco, Calif.	.....	.....	171.5	.....	.....	182.8	.....	.....	193.1
Denver, Colo.	164.6	.....	.....	172.8	.....	.....	191.2	.....	.....
Washington, D. C.	.....	166.2	.....	.....	171.9	.....	.....	184.7	.....
Jacksonville, Fla.	.....	.....	175.5	.....	.....	186.5	.....	.....	195.9
Atlanta, Ga.	.....	170.5	.....	.....	178.9	.....	.....	196.1	.....
Savannah, Ga.	173.4	.....	.....	181.6	.....	.....	197.8	.....	.....
Chicago, Ill.	174.4	175.3	173.2	180.4	180.6	184.1	193.5	194.3	194.2
Indianapolis, Ind.	172.1	.....	.....	179.8	.....	.....	189.7	.....	.....
New Orleans, La.	.....	173.3	.....	.....	178.5	.....	.....	190.0	.....
Portland, Me.	.....	.....	162.8	.....	.....	171.4	.....	.....	179.9
Baltimore, Md.	.....	.....	170.9	.....	.....	180.7	.....	.....	193.3
Boston, Mass.	164.1	164.0	162.7	169.4	169.6	171.2	179.3	180.0	180.9
Detroit, Mich.	168.7	169.8	169.1	177.7	179.2	181.0	190.2	191.5	191.9
Minneapolis, Minn.	.....	.....	167.4	.....	.....	178.8	.....	.....	187.7
Kansas City, Mo.	161.1	.....	.....	167.4	.....	.....	180.4	.....	.....
St. Louis, Mo.	.....	.....	167.8	.....	.....	180.2	.....	.....	190.2
Manchester, N. H.	169.3	.....	.....	176.2	.....	.....	187.0	.....	.....
Buffalo, N. Y.	167.4	.....	.....	173.0	.....	.....	186.9	.....	.....
New York, N. Y.	165.9	165.8	164.9	171.0	172.1	175.1	183.0	184.1	184.0
Cincinnati, Ohio	168.7	168.3	167.8	176.0	176.0	178.7	187.0	187.8	187.9
Cleveland, Ohio	.....	170.3	.....	.....	178.6	.....	.....	192.0	.....
Portland, Ore.	173.6	.....	.....	183.4	.....	.....	195.8	.....	.....
Philadelphia, Pa.	168.9	168.6	167.3	173.8	174.1	178.2	186.7	189.1	189.2
Pittsburgh, Pa.	171.1	171.3	170.3	179.2	178.9	180.8	191.2	192.0	191.7
Scranton, Pa.	.....	166.3	.....	.....	173.7	.....	.....	185.4	.....
Memphis, Tenn.	.....	.....	170.8	.....	.....	180.2	.....	.....	191.4
Houston, Tex.	172.0	173.3	173.2	179.9	191.1	184.8	194.4	195.1	196.0
Norfolk, Va.	.....	168.2	.....	.....	177.0	.....	.....	191.7	.....
Richmond, Va.	164.9	.....	.....	171.6	.....	.....	183.8	.....	.....
Seattle, Wash.	.....	171.6	.....	.....	180.8	.....	.....	194.6	.....
Milwaukee, Wis.	.....	168.4	.....	.....	179.1	.....	.....	195.3	.....

STANDARDIZED STEEL BUILDING PRODUCTS



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STANDARDIZED STEEL BUILDING PRODUCTS

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Sidelights for Contractors

By John C. Hayes, *Legal Adviser*

Taxes

Self-Employment Tax.—In preparing their Federal income tax returns for 1951, most contractors doing business as sole proprietors or as members of partnerships or similar organizations will find, in addition to their income tax, that they must pay a tax on their self-employment income. While in effect a social security tax, self-employed individuals must report and pay this new tax in full with their annual Form 1040 income tax return. The tax applies, at the 1951 rate of 2¼%, to net income from self-employment (if $400 or more) up to a limit of $3600 a year, with the result that the maximum amount of this tax for 1951 is $81.00. Income from salaries or wages, dividends, interests, rentals, capital gains, and annuities or pensions is exempt. Any declaration of estimated income tax required to be filed need not include an estimate of the tax on self-employment income. But persons subject to the tax on self-employment income should get social security account numbers prior to filing their Form 1040 returns.

Itemizing Dividends and Interest.—Where dividends are collected for a taxpayer by a bank, the Bureau of Internal Revenue states that the taxpayer, in filling out his individual income tax return on Form 1040, need not itemize the names of the corporations paying the dividends and the amounts received from each but may merely enter the name of the bank and the total amount collected through it. However, where interest is similarly collected, the taxpayer must fully itemize the names of the payors and the amounts received from each.

Pay for Injuries or Sickness.—The Bureau of Internal Revenue has issued a general statement as follows, in part:

"All payments by an employer to an employee on account of illness or injury must be included in the income of the employee unless such payments are:

(1) Paid for disability connected with employment pursuant to a workmen's compensation law;
(2) Paid under a plan or agreement which constitutes a contract of insurance as determined by the Bureau; or
(3) Damages for disability connected with employment.

"Any other payments made by an employer on account of incapacity of an employee, and any payments in excess of the amounts set forth in the foregoing paragraphs numbered (1), (2) and (3), are compensation paid to the employee and are taxable to him accordingly."

Intra-Family Assignments and Gifts.—Under the facts in a recent case, a court of appeals refused to permit a husband to deduct business rents and royalties paid to his wife for the use of lands, buildings and patents in his manufacturing business. The husband had formerly leased the lands and buildings from an outsider, with option to purchase, and had owned the patents; but the wife purchased the lands and buildings, with funds given her by the husband, and also received the patent rights by gift, immediately thereafter leasing or licensing all back to the husband. Since the husband had retained effective control of the property, the court felt that his rental and royalty payments to the wife were not valid business deductions.

Accrual of Expenses.—Where accrual-basis taxpayers engaged in a strip-mining operation were obligated by state law and their lease contracts to back-fill at their own expense the lands stripped in their mining operations, a court of appeals upheld their right to accrue as a deductible 1945 expense a reserve for the costs of back-filling, although the work was not carried out until 1946, when the actual expense was found to be somewhat less in amount. The court states:

"We conclude that when all the facts have occurred which determine that the taxpayer has incurred a liability in the tax year, and neither the fact nor the amount of the liability is contested, and the amount, although not definitely ascertained, is susceptible of estimate with reasonable accuracy in the tax year, deduction thereof from income may be taken by a taxpayer on an accrual basis."

Family Partnership. — Even though there may be doubt that a partnership of mother and daughter, set up by the father and to which was given his farm, would have been upheld for income tax purposes had there been a profit from the farm, a court of appeals refused to let the father deny the existence of the partnership in order to deduct the losses of the farm from his own income. In the court's view, the important thing was that the father had given the farm to his wife and daughter, operated it for their benefit, and treated the profits and losses as theirs rather than his own.

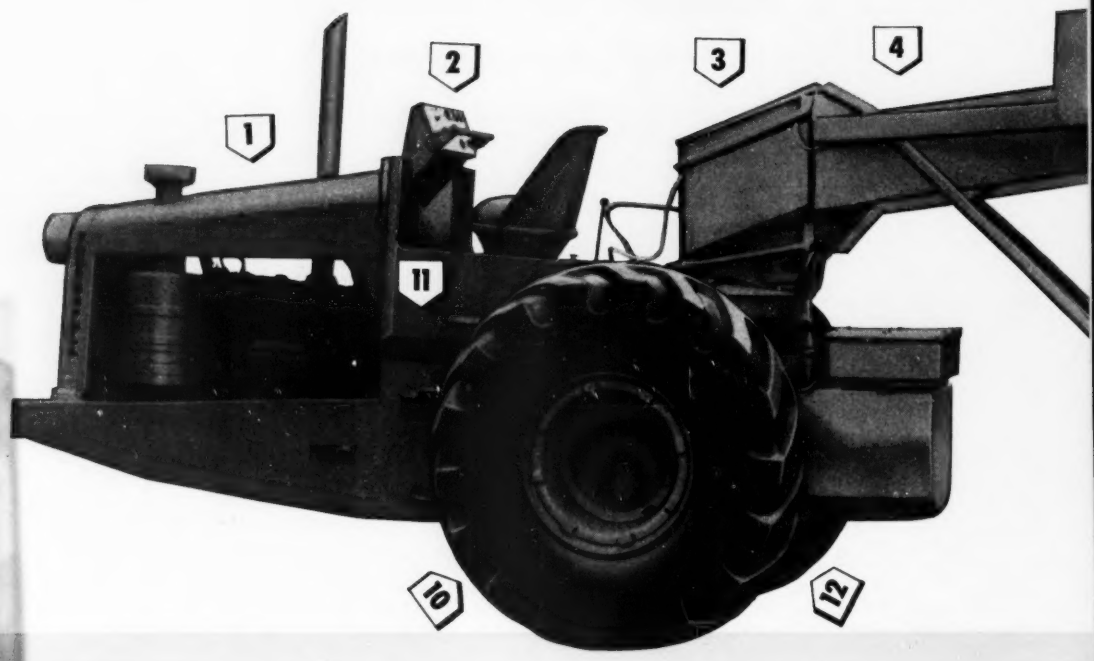
Public Contracts

Disputes Clause. — Citing the Supreme Court's decision in the Wunderlich case, a district court has held that a disputes clause in a Navy cost-plus contract making the Navy's Bureau of Supplies and Accounts the final authority on questions of fact thereunder, prevents the Government's recovery of payments made at the Bureau's direction but later disapproved by the General Accounting Office. This opinion should strengthen the doubts previously expressed by the General Accounting Office that the Wunderlich decision, although decided in the Government's favor, may result in a waste of public funds.

Renegotiation. — The Renegotiation Board has issued in tentative form its rules governing the elimination of "excessive profits" realized on defense contracts. The Board states that it has attempted to avoid requirements calling for changes in accounting systems or for excessive record keeping, that fixed formulas will not be used, and that allowable profits will not be based on a percentage of costs but rather on a consideration of the merits of each case.

Miller Act Surety.—A workmen's compensation award for injury is not within the coverage of a payment bond filed pursuant to the Miller Act, a court of appeals decided, in denying recovery in a claim brought against such a surety on a bond for an insolvent employer whose workmen's compensation policy had lapsed.

Here's the BOTTOM



Le Tourneau 18-yd. TOURNAHOPPER

1 **Over 5 h.p. per ton of gross weight** ... works with job-proved 186 h.p. C Tournapull prime mover ... has plenty of power to haul full 18-ton loads up steep grades.

2 **Fingertip electric switches,** control dump and steer ... respond instantly ... increase safety margin ... reduce operator fatigue ... eliminate "end-of-shift" letdown. No troublesome hydraulic system.

3 **Positive electric power steer** swings prime mover without use of final drive ... "walks" rig out of mud-holes to firmer footing ... permits safe, accurate working and turning on steep slopes.

4 **90° turns within 15'8" radius** give 34'-long Tournahopper exceptional maneuverability for fast turns off fill, away from loader, and while hauling along narrow levee roads.

5 **Big, steel-reinforced bowl** carries up to 18 tons ... has 18 cubic yard capacity. Bowl withstands shock loads of rock and other heavy materials ... reduces body maintenance costs.

6 **9' x 11' top opening,** low 8'9" loading height, provide big target ... speed shovel, dragline swings, reduce spillage. Rig "tops out" loads with minimum movement under belt loader.

7 **Dump doors lift high,** leave bottom opening approximately same as top. Rocks, sticky material, dirt dump fast without damaging gates. Everything that goes in the top easily comes out the bottom.

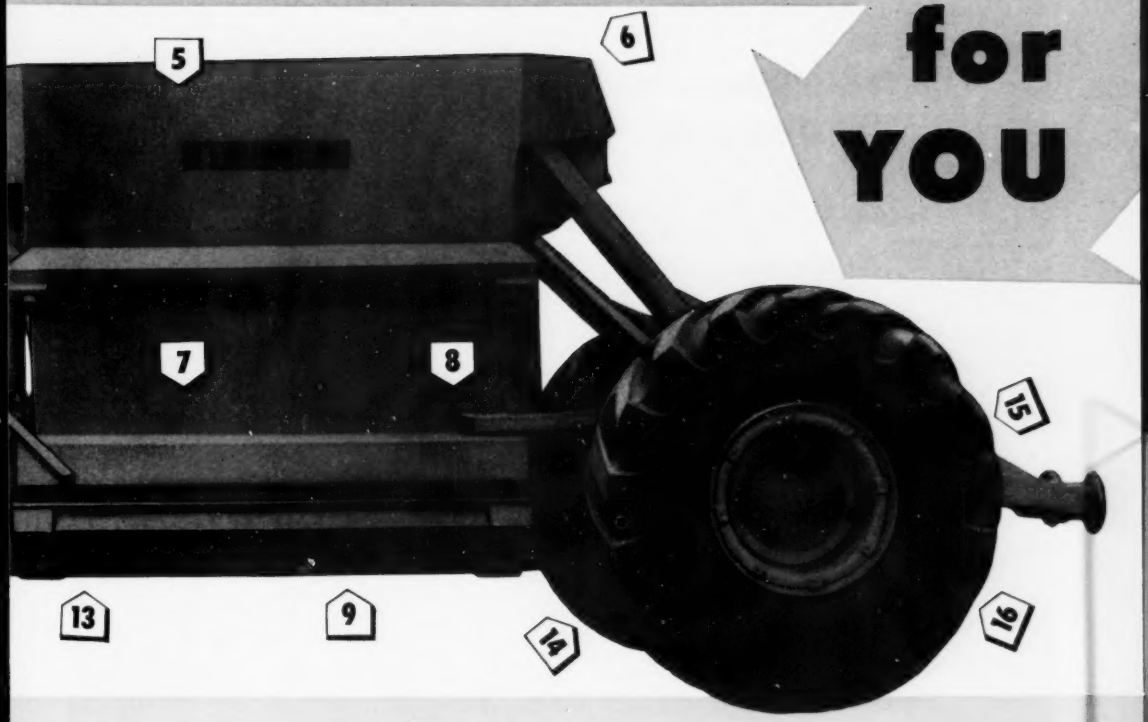
8 **Power-controlled "clamshell" doors** wipe clean as they lift to swing up and out ... open full width or partially for controlled dump. No dangling gates.

C Tournahopper prime mover is readily interchangeable with these 4 other hauled units to fit future job requirements.

* Trademark Reg. U. S. Pat. Off.
** Trademark

18-ton rear-dump TOURNAROCKER** | 14-yd. (18-ton) TOURNAPULL* | 15-ton TOURNACRANE* | 20-ton flatbed TOURNAHAULER**

-DUMP dirtmover for YOU



gives you all THESE FEATURES:

9 **25" ground clearance under hopper** permits fast dump and turn over deep windrows. Open doors clear 42" and with prime mover in 90° turn position, you can swing to clear 42" boulders.

10 **51% of loaded weight on drive tires** gives plenty of traction in spongy, wet going. No "extra" small steering wheels to rob power as they break trail and bog down in soft going.

11 **Constant-mesh transmission** (with torque converter) available for instant gear changes. Torque converter automatically selects proper gear ratio, provides maximum power at all speeds, 0 to 33 m.p.h., removes shock loads in power train.

12 **Torque-proportioning differential** automatically delivers up to 4 times the tractive power of slipping drive wheel to wheel on firmest footing.

13 **Optional "Electretarder" warms body** electrically, keeps loads from freezing.

14 **4-wheel, multiple-disc air brakes,** 3,763 sq. in. braking surface (more per ton than any other hauler) give operator confidence to use high speeds.

15 **Big 21.00 x 25 low-pressure tires,** all around, operate at pressures as low as 30 lbs., give extra flotation, minimize rutting in soft ground. They have less rolling resistance than duals . . . are bigger, stronger, heavier than duals . . . better adapted to withstand load and haul shocks. There's no divided face for rock fragments to wedge in and tear.

16 **Trouble spots eliminated**—no frame, sub-frame, springs, spring hangers, drive shaft, front-end steering wheels, or hydraulic system . . . less time out for maintenance . . . lower maintenance costs . . . smaller spare parts stock required.

Let us show you how Tournahoppers can lower your bottom-dump hauling costs.

Tournahopper—Trademark Tournapull—Trademark Reg. U. S. Pat. Off. 8225

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HIGH-SPEED, RUBBER-TIRED EXCAVATING • HAULING • LIFTING EQUIPMENT

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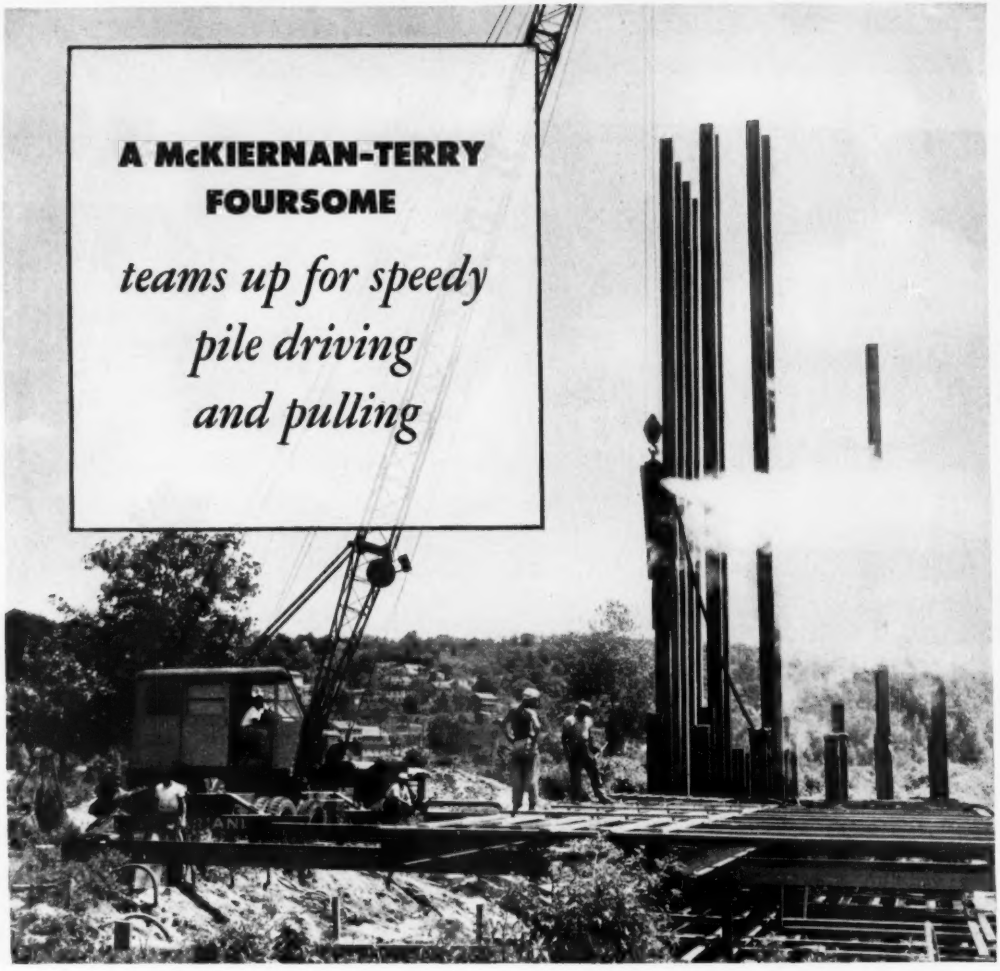

A McKiernan-Terry Pile Hammer driving steel foundation piles for the Housatonic River Bridge from the 80-ft boom of a truck crane. Mariani Construction Co. was the contractor.

Here's bridge-building teamwork . . . McKiernan-Terry style! On the new Housatonic Bridge connecting Derby and Shelton, Conn., four pieces of McKiernan-Terry equipment were teamed up by the contractor for fast pile driving and extracting.

McKiernan-Terry 9-B-3 and 10-B-3 Double-Acting Hammers drove 40 to 65 feet steel piles to refusal in rock for four piers and the east abutment. Piles were punched down on a 1 in 6 batter from large crane rigs.

Cofferdam steel piles, 40 feet in length, were driven by a McKiernan-Terry Double-Acting No. 7 Hammer and quickly removed with a McKiernan-Terry E-4 Pile Extractor.

You, too, can get all the pile-driving versatility you need with the wide range McKiernan-Terry line. It includes 16 sizes of single-acting and double-acting hammers and 2 sizes of double-acting extractors. Write for bulletin.

MK-311

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Lip Homage for Highways

IT IS astounding how accurately and forcefully the plight of the nation's highways has been expressed publicly in recent months by officials in high government circles—especially since little is being done to help solve the situation.

Doggedly, highway officials and others from industry have haunted the doorsteps of mobilization officials, trying to impress them with the facts and figures showing rising traffic volume, the value of highways in defense, and the necessity of not repeating the mistake of World War II when the system was allowed to lapse into disrepair. The results—keen perception of highway problems in public utterances, with cut-backs in steel allocations and a recommended cut in federal-aid authorizations—can only be interpreted as lip service.

The fourth quarterly report to the President by the Director of Defense Mobilization had this to say:

"For a decade, highway construction and maintenance have lagged behind increasing highway traffic. Allocation of structural and plate steel for this purpose in the first quarter of 1952 had to be reduced substantially below requirements. Even with increased allotments of materials after April 1, it will take years to bring our highways up to the standard required by the volume of traffic.

"This problem is illustrated by the increase in vehicle registrations during the past 12 months. There are now more than 52 million passenger cars, trucks, and busses using the highways, over 3.5 million more than a year ago."

The President, in his state of the union message, said:

"We are going to keep on building essential highways and taking the other steps that will assure the nation an adequate transportation system."

His economic message to Congress stated:

"The rate of maintenance of the highway system has for the past decade averaged far less than would be required to keep it in even reasonably adequate condition in the face of the phenomenally rapid growth of traffic. Although some reduction in highway expenditures has to be made in the immediate future, higher levels of construction and maintenance activity should be resumed as quickly as possible. The federal-aid highway program should be extended promptly, to avoid any lapse when the present program expires."

The government's attitude on highways is more clearly expressed in the President's budget message:

"Federal-aid highway authorizations under existing legislation have been fully apportioned to the states, and this legislation should be extended in the present session of the Congress for an additional two-year period. Although a need clearly exists for a high level of road improvement, state and local governments must continue to assume the primary responsibility for financing such construction. Under present circumstances, the Federal Government should concentrate its highway aid on those projects of national interest which are most urgently needed for defense and essential civilian transportation. A new authorization of 400 million dollars annually—100 million dollars below the present authorization—should enable the government to discharge this responsibility."

The President added that, "Partly as a result of the steel shortage," the program will remain below the authorized annual level of $500 million in the current fiscal year.

Although second quarter allotments of structural steel are slightly above those of the first quarter, they amounted to only 30% of the amounts needed, necessitating the postponement of even some projects that are under way.

While Public Roads Commissioner Thomas H. MacDonald was telling a Congressional committee that "I have worn my trousers thin begging more steel for highways," a steel industry advisory committee was telling the National Production Authority its fears that structural steel will go begging by the end of the year because officials in charge of highway and bridge building and other construction have halted designs for proposed future construction "because they have been told that no material will be available."

The steel industry asked specifically that NPA devise some method to encourage construction planning so that structural steel and other supplies can be put into immediate construction when they are more readily available.

It is clearly evident that government officials have yet to be convinced that highways are an important enough segment of the nation's economy—and defense—to merit every consideration for encouragement.

The paring down of federal-aid authorizations and the current discouragement of long-range planning are not among such incentives. Problems for the states will be increased—especially for those whose governments have been lethargic in providing matching funds for federal aid in the past. An accentuated movement toward toll roads may provide one answer.

A Senate bill has been introduced that would provide $750 million annually in federal-aid authorizations for the next two fiscal years, somewhat lower than the recommendation by the American Association of State Highway Officials of $810 million. In the House, a bill has been presented calling for the $400 million recommended by the President. It is ironical that the improvement of highways when it is so sorely needed should become the crux of an economy fight.

Highways have become a real necessity, not a luxury—and certainly not a "make work" vehicle which can be placed on the shelf to provide employment if a depression should strike.

Huge fabricating capacity and erecting short cuts count on big jobs

International Harvester Company, Broadview Parts Depot—4500 tons of steel fabricated and erected.

29 acres under one roof

Large jobs like this can be fabricated simultaneously in all three of our shops where identical equipment is available. That means speed which is pretty hard to duplicate. On location, the skill of erecting crews in getting the structure up means more speed and time saved.

Wherever structural steel is involved in large, small, or in-between size structures, send your plans and specifications to us to be estimated.

★ **Clinton Bridge Corporation** ★ **Gage Structural Steel Corporation** ★ **Midland Structural Steel Corporation**

Fabricators and erectors of structural steel for highway and railroad bridges; industrial, office, school, and government buildings; Airport structures; Harbor facilities.

Metals Pinch to Worsen, Run Into '53, Controls Officials Say

- No Hope Seen for Copper Relief This Year
- Half-Way Mark Believed Reached in Program

» LAST MONTH government officials estimated that the nation stood at the half-way mark between the start of the Korean war and the mid-1953 goal of built-up military strength and productive capacity to support all-out mobilization.

However, the tremendous amount of unspent defense funds still on hand plus other big military appropriations in the President's budget prompted mobilization officials to warn that the impact of civilian shortages this year will not be small. They still estimate that shortages of basic materials will be most acute during the second and third quarters, with only a slight easing during the latter part of '52.

Among the non-ferrous metals, copper, brass, aluminum, tin, lead and zinc scrap are reported in "drastically short supply," with copper foremost, since there is no prospect of substantial increases in its supply. Expanded aluminum facilities are not expected to result in an over-abundance of this metal in 1952 after military and defense-related needs are met.

For construction, however, came increasing indications from the steel industry that its greatest bugaboo of recent months — the structural steel shortage—can be expected to disappear by the end of the year.

There were these specific developments on the construction controls front during January:

- The National Production Authority told its Construction Industry Advisory Committee that there will be "virtually no new starts" in industrial and commercial construction in the second quarter of 1952 because of military and other defense demands on critical materials, and because of the "attrition" factor whereby allotments under the Controlled Materials Plan are made from 10 to 15% more than the available supply, is not working out as planned.
- NPA exposed the Advisory Committee to a revision of CMP Regulation 6 which will include in one document all provisions of Order M-4A, CMP 6 and Direction 1 to CMP 6. Housing is expected to be left out, but covered in a new regulation being drafted by the Housing and Home Finance Agency. Use of foreign and salvage steel in construction under certain conditions is provided in the proposed order, which is expected to be placed in effect after another meeting with the Advisory Committee this month.
- Direct defense and defense-related production and construction now is taking more than 40% of the carbon steel and 60% of aluminum and copper wire mill and copper brass mill products, the Defense Production Administration estimated.
- NPA denied 73.4% of the final 507 applications for allotments in the first quarter to build commercial, religious, entertainment and community structures. Since the supply of materials allocated to the NPA Construction Controls Division for the second quarter is even smaller than that for the first quarter, only "emergency" commercial and institutional projects will be permitted to start.
- Lower allotments for the second quarter announced by DPA will support all types of construction at a rate of 14% below the volume of the second quarter of 1951.
- A conservation order prohibiting use of copper or aluminum in certain builders hardware items was under consideration.
- NPA ruled that delivery of controlled materials, delayed from a previous quarter, may be accepted on a construction project without the necessity of charging them against the allotment for the current quarter.
- Defense Mobilizer Charles E. Wilson issued his fourth quarterly report, which stressed the "pinch" faced in critical materials which he expects to continue into 1953.

Industry Warns Steel May Go Begging

- Again Seeks Construction Planning Incentive from NPA

» THE PROSPECT that structural steel may go begging by the end of 1952 if some method is not developed by the National Production Authority to encourage construction planning, was again pointed out to that agency Jan. 30 by the steel industry.

This time it was the Steel Products Industry Advisory Committee which met with NPA officials in Washington to study the problem of decontrolling those steel products which are now apparently in fairly good supply. In December, members of the structural steel fabricating industry made the same point.

The steel products group strongly recommended that action be taken to keep construction planning alive so that projects can be put into immediate construction when steel and other building supplies are more readily available.

Bridge Planning Halts

"If this is not done, the time may come, perhaps by the end of 1952, when structural steel will go begging because designs and plans are not ready," the NPA announcement quoted the industry representatives as saying.

"They are particularly worried, they said, because many builders and contractors and officials in charge of highway and bridge building have stopped making designs for proposed future construction because they have been told that no material will be available," the NPA press release continued.

New NPA Commitment Policy

"NPA has adopted a policy that when a CMP allotment is issued to begin a construction project, there is an implied commitment that sufficient material will be made available to carry the project to completion," NPA officials said.

"It may be necessary to slow down some construction that is now underway, but NPA is determined to make material available as quickly as possible to complete these projects," it was explained.

NPA will set up a task group to determine the possibility of decontrolling secondary tin mill products, cold rolled sheet and strip, merchant

pipe, and merchant trade wire products, which the industry committee claims are now in adequate supply.

Meanwhile, the fabricated structural steel industry forecast another record year of production. The American Institute of Steel Construction reported 2.7 million tons were shipped during 1951—more than in any other year in the last two decades—and that many shops with small backlogs can take rated orders within a few months.

Amend Construction Controls

A revision of the major construction controls, embodying all their provisions in one document, was planned this month by the National Production Authority.

The proposed order, CMP Regulation 6, Revised, will contain the provisions of Order M-4A, the basic regulation, CMP 6, and Direction 1 to CMP 6. Housing will be omitted, with this activity being covered by a new regulation being drafted by the Housing and Home Finance Agency, which will administer it.

NPA first revealed some of the new proposal to members of its Construction Industry Advisory Committee in Washington, Jan. 9, later sent a draft of the regulation to committee members, and this month was to hold another meeting of the group to discuss it.

Tentative provisions include:

A provision for use of foreign or salvage steel in essential construction under certain conditions, elimination of the provision permitting use of a defense order (DO) rating to replace inventory consumed in a construction job, a limitation on the right to obtain metal-working machinery by using a DO rating, a dollar limit on the amount of "B" products and noncontrolled materials that may be obtained by self-authorization, and a ban against transfer of allotments.

At its January meeting, the committee was told that, beginning with the second quarter, allotments will be made whenever possible on a project basis rather than on a quarterly-use basis.

The agency also said it was considering a plan to issue construction authorizations with no allotment until materials become available in future quarters, so that builders might apply for an authorized schedule and be able to go ahead with planning, engineering and other preliminary work.

President's Legislative Requests Broad

- Stronger Controls, Taxes, Some Fair Deal Measures Asked

» THE PRESIDENT asked for a long list of legislation in his January state of the union, economic and budget messages.

Defense housing and community facilities, school construction, new power projects, and extended controls were included. He also asked for some of his previously requested Fair Deal measures and repeated his request for more taxes.

Main points in his state of the union message were that Russia is increasing her armed might and influence and free nations must work together to continue progress toward peace; the country's economy is good and improving; inflation still threatens; taxes must remain high and controls kept tight; military production will curtail civilian activities for at least two years; and wrongdoers in government must be punished. He indicated the "urgently needed" projects of the domestic program will be pressed, others slowed down or given up for this year.

In his economic message, the President asked for up to $5 billion in tax increases, forecast a "year of strain," and announced goals of (1) increasing national output by 5% and (2) increasing employment by 1⅓ million. Here is the 12-point legislative program contained in this message:

1. Extend the Defense Production Act two years beyond June 30, strengthen its provisions, restore consumer easy-payment credit control, restore beef slaughter controls, and strengthen defense loans, tax benefits and loan guarantees to encourage plant expansion.

2. Continue foreign aid and repeal ban on import of certain goods.

3. Provide funds for the Small Defense Plants Administration.

4. Approve the St. Lawrence and other power development projects.

5. Provide for more defense housing and community facilities.

6. Amend the Taft-Hartley Act "so that it will not hamper sound and healthy labor relations and uninterrupted production."

7. Repeal the sliding scale provisions in existing agricultural price support legislation, provide a workable support program for perishable commodities, and modify the tax on unallocated reserves of cooperatives.

8. Provide "at least enough additional revenues to reach the revenue goal proposed last year, by eliminating loopholes and special privileges and by tax rate increases."

9. Provide power to the Federal Reserve to impose additional bank reserve requirements and provide authority to control margins for trading on commodity exchanges.

10. Raise social security benefits, extend old age insurance to farmers and others, extend unemployment compensation to more workers, and enlarge the amount and duration of jobless pay.

11. Authorize federal aid to education and aid for school construction in defense areas.

12. Authorize federal aid to medical education and provide for strengthening local public health services.

President Truman followed up on these points in his budget message and sent a special message to Congress later appealing for approval of the St. Lawrence seaway and power project.

At a news conference, he referred to a 5-year atomic energy expansion program estimated to cost $5 to $6 billion. Request for obligational authority for this program was expected to be transmitted soon to Congress.

Plant and Equipment Rising

Another record first quarter of business outlays for new plant and equipment is planned for this year.

The latest survey by the Securities and Exchange Commission and Commerce Department shows plans for $5.7 billion expenditure, 18% more than in the first quarter of 1951. The increases are accounted for by all major industries with the exceptions of commercial and miscellaneous.

In fact, report the agencies, by late 1951 only defense and defense-supporting industries were continuing to increase their investment rates, stimulated by the government's incentive program for plant expansion.

Total 1951 outlays by business for fixed capital are estimated at $23.1 billion, about 30% more than in 1950. Manufacturing firms led.

Second Quarter Allotments

That less essential construction is being brought to a virtual stand-still is apparent in the second quarter 1952 allotments of critical materials announced last month.

The increasing demands of the Department of Defense are cutting deep into the limited supplies of steel, copper and aluminum available for commercial construction and housing. Industrial expansion for defense production, also, will be slowed down during the next few quarters, the Defense Production Administration reports. The agency can allocate only 213,000 tons of the 275,000 tons needed to continue projects now under way.

Construction of all types authorized for the second quarter of 1952 is at a rate of about $6.5 billion, as compared (with price adjustment) with a level of $7.6 billion for the same period last year and with a level of $6.7 billion for the corresponding quarter of 1950.

The allotments will support, DPA claims, the more essential flood control and river and harbor projects, although some such improvements will have to be deferred. Steel allotments to schools will be sufficient to continue 2,400 schools now under way and allow about 500 new starts.

Highways Get Steel Boost

Airport projects having a direct military value and about one-half of the essential projects for civilian air transportation may continue on the new allotments to that classification. The Bureau of Public Roads will get 70,000 tons of structural shapes in the second quarter, compared with the first quarter allocation of 53,000 tons. Not all projects now under way can be carried forward, DPA says.

A reduction from 369,000 tons of structural steel for the first quarter to 213,000 tons for the second quarter is being made in the allocation to NPA Facilities and Construction Bureau. That will necessitate a slow-down of privately financed industrial plant construction and permit only emergency construction of commercial and institutional buildings.

Of the three controlled materials, the supply of copper is farthest behind demand. Components, such as valves, fittings, nails, screws and electrical fixtures have been forced into short supply, the agency says.

Second Quarter CMP Allotments

Claimant Agency and Program	Total Steel (Tons)	Total Copper and Copper Base Alloys (000 lbs.)	Total Aluminum (000 lbs.)
Estimated Supply	21,810,500	1,391,000	705,000
Department of Agriculture	52,105	1,376	87
Dept. of Army	32,560	1,392	194
Atomic Energy Comm.	118,790	7,673	5,553
Civil Aeronautics Admin.	20,098	1,222	194
Defense, Dept. of	2,617,361	309,940	278,190
Defense Electric Power Admin.	339,650	62,009	58,212
Defense Fisheries Admin.	712	26	.....
Defense Minerals Admin.	39,250	1,605	340
Defense Solid Fuels Admin.:			
Coal Mine Construction	12,790	259	19
Coke Oven Construction	26,710	321	2
Defense Transport Admin.	74,855	2,133	146
Federal Civil Defense Admin.	5,106	74	39
Federal Security Agency:			
Education	128,279	5,354	8
Hospitals	75,850	2,723	388
General Services Admin.	27,437	1,007	81
Housing & Home Finance Agency	78,600	3,011	48
Dept. of Interior	9,308	232	48
Maritime Admin.	121,100	2,950	194
OIT–ECA	669,484	10,114	1,746
Petroleum Admin. for Defense	1,710,375	7,775	1,240
Public Roads, Bureau of	251,525	592	172
Veterans Admin.	12,655	1,278	141
National Production Authority Divisions			
Agriculture Mach. & Impl. Div.	541,822	9,272	7,429
Aircraft Div.	16,181	1,502	8,781
Aluminum & Magnesium Div.	15,625	.....	5,346
Building Materials Div.	849,263	51,156	46,494
Canadian Div.	467,050	3,731	1,843
Chemical Div.	115	881	2,970
Communications Equip. Div.	43,400	43,588	2,620
Construction Machinery Div.	456,179	6,046	1,731
Consumer Durable Goods Div.	872,180	34,584	48,030
Container & Packaging Div.	1,526,396	288	19,561
Copper Div.	42,150	3,602	1,746
Electrical Equipment Div.	655,261	164,695	31,382
Electronics Div.	58,900	30,803	12,244
Engines & Turbines Div.	588,330	30,893	3,299
Facilities Bureau:			
Construction Controls	18,010	504	.....
Industrial Expansion	583,938	29,340	10,890
General Components Div.	1,203,225	182,456	21,004
General Industrial Equip. Div.	532,568	40,860	15,369
Iron & Steel Div.	211,082	3,955	116
Leather & Leather Prods. Div.	9,833	387	388
Lumber & Wood Products Div.	6,076	131	822
Metalworking Machinery Div.	652,535	32,357	8,464
Mining Machinery Div.	135,518	3,769	269
Misc. Metals & Minerals Div.	3,561	2,351	82
Motion Pic. Photo. Prods. Div.	7,601	971	2,710
Motor Vehicles Div.	3,009,760	106,683	59,400
Ordnance & Shipbldg. Div.	105,150	9,672	928
Printing & Publishing Div.	4,700	1,058	459
Pulp, Paper & Paperboard Div.	1,001	41	26
R. R. Equipment Div.	1,599,141	84,320	4,684
Rubber Div.	32,395	3,588	954
Scientific & Tech. Equip. Div.	49,952	39,853	13,541
Service Equipment Div.	43,813	2,695	3,881
Water Resources Div.	220,415	3,131	368

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CONSTRUCTION MACHINERY . . .

Legislation Introduced to Offset Effects of Wunderlich Decision

- Action in Both Houses at A.G.C. Request
- Initial Bills May Be Basis for Hearings

» INITIAL BILLS have been introduced by the respective chairmen of the Senate and House Judiciary Committees to offset the effects of the United States Supreme Court decision in the Wunderlich case.

These bills probably will serve as the basis for public hearings, and be rewritten later.

The court decision of Nov. 26, 1951 interpreted the disputes clause of the standard government construction contract form to mean that the determination of a federal department head is final, and that there can be no recourse to the courts in disputes over findings of fact unless fraud on the part of the government can be alleged and proved.

Fraud was limited by the decision to mean "conscious wrongdoing, an intention to cheat or be dishonest." (December CONSTRUCTOR, page 24.)

Managing Director H. E. Foreman of The Associated General Contractors of America on Jan. 5 wrote identical letters to Chairmen Pat McCarran and Emanuel Celler of the Senate and House committees recommending, in the best interests of the government and business, prompt action on legislation embodying the following principles:

A.G.C. Principles

"1. That any government contract, regardless of the language of the contract itself, shall be subject to appeal to appropriate courts from rulings of the contracting officer or the head of the department both as to matters of fact and law.

"2. That all existing contracts be modified accordingly.

"3. That any matters growing out of government contracts, which were legally in process at the time of the decision, have their status renewed as of the date of such decision, and that the contracts be construed in accordance with the principles set forth in 1 and 2.

Celler Reply

Chairman Celler on Jan. 9 replied stating in part:

"I fully recognize the injustices inherent in this decision which permits findings by a contracting officer, concurred in by his superior, to be absolutely determinative of the facts in all cases of disputes arising from a government contract, absent 'conscious wrongdoing, and intention to cheat or be dishonest.'

"If such a decision were to stand as the law of the land, contractors or others similarly situated would be deprived of the traditional American remedy of judicial review. This would be, in my humble opinion, highly undesirable and might establish a trend whereby purely administrative officials would determine contract and other property rights as between the government and the private citizen. I will, therefore, introduce and sponsor the required legislation to ameliorate the effects of this decision."

He introduced H.R. 6214 Jan. 24.

McCarran Reply

Chairman McCarran, immediately upon his return to Washington, introduced S. 2487 on Jan. 22. On the Senate floor he explained the serious effects of the Supreme Court decision, and briefly explained his bill, stating in part:

"It is, indeed, a matter for Congress, and for several weeks I have been concerned with the problem of drafting a bill which would meet the situation.

"The principal problem in this connection has been the fact that affirmative provisions requiring judicial review must either be so broad as virtually to require federal court supervision of the administration of all government contracts, or so selective as to be both excessively arbitrary and exceedingly difficult to apply.

"The solution which I propose, and which is embodied in my bill, is simply to express the will of Congress that no construction as narrow as that applied by the Supreme Court in the Wunderlich case shall be the law in the future.

"This bill does not attempt to define the precise limits where review may be had. After all, that is best determined on an ad hoc basis, with the decision in each case resting on the solid rock of the merits of the case, as the facts may appear. The bill which I am introducing will not tie the hands of the Supreme Court, will not dictate to the Supreme Court, but will, on the contrary, leave the Supreme Court free to decide the next case which comes along, and each succeeding case, in accordance with the will of Congress.

"On the other hand, this bill assures the overthrow of the dangerous doctrine promulgated in the Wunderlich decision, and disavows the concept that a government contracting officer can do no wrong unless he tries to do wrong."

Committee Hearings

The Senate bill has been referred for action to a subcommittee composed of Senators McCarran, Nevada, chairman; Kilgore, West Virginia; Eastland, Mississippi; Jenner, Indiana; and Hendrickson, New Jersey.

Public hearings were expected to be held by the Senate committee early in February, and by the House committee at a later date.

A.G.C. representatives at the hearings are expected to outline the need for action at the earliest possible time, and to explain in greater detail the need for legislation embodying the principles which the association has recommended.

The Bills

S. 2487 provides that it shall be enacted by Congress: "That no provision of any contract entered into by the United States, relating to the finality or conclusiveness of any decision of the government contracting officer, or of the head of the department or agency of the United States concerned or his representatives, in a dispute involving a question of fact arising under such contract, shall be construed to limit judicial review of any such decision only to cases in which fraud by such government contracting officer or such head of department or agency or his representative is alleged."

H.R. 6214 provides that it shall be enacted by Congress: "That chapter 91 of title 28 of the United States Code is amended by adding at the end thereof the following new section:

"1506. Review of decisions under 'finality clauses' in government contracts.

"In any case in the Court of Claims or in any district court which is

Renegotiation to Go in Effect This Month

• Permanent Rules Due Soon; A.G.C. Reemphasizes Points

» ACTION to put the Renegotiation Act of 1951 into effect is expected to be taken this month by the Renegotiation Board.

The board issued its lengthly regulations in proposed form on Jan. 10 and allowed 20 days for suggestions to be submitted. It announced that the regulations in their effective form would be issued early in February.

Late in January the board started mailing report forms to 17,000 contractors and subcontractors. The act requires that every person who has contracts or subcontracts directly related to the defense effort must file financial statements with the board, regardless of the amount received.

The Associated General Contractors of America recommended that to reduce the uncertainties of contracting, certain contracts not be subject to renegotiation: such as construction contracts not directly related to the national defense, those awarded as the result of competitive bidding after public advertisement and those for overseas work.

Before the regulations were issued in effective form, the A.G.C. wrote to the board recommending that they be held subject to amplification and amendment in the future as time becomes available for the more thorough study of various considerations, stating in part:

"These recommendations were made sincerely by the association in the belief that they are as much in the public interest and that of government agencies as of general contractors. These recommendations were, primarily, that certain types of construction contracts should be exempt from renegotiation where they had no direct or immediate connection with the national defense or where the interests of the government already were protected and steps had been taken to assure against excessive profits.

"We recognize the necessity for the board to issue its regulations at the earliest possible time so that all business organizations may be informed generally of the renegotiation procedures and how they are affected by them. We also recognize that the board would want to give thorough study to the recommendations made by the association to assure itself that all steps would be taken in the public interest according to the intent of Congress.

"Believing that there is genuine merit to the recommendations which the association has made, we urge that you give continued study to them, and that you consult with federal agencies which award construction contracts. These agencies will be able to give you well informed opinions on our proposals."

Regulations

Initial printing of regulations is expected in the *Federal Register*. Reprints will be made and be on sale at the Government Printing Office. Contractors will be expected to secure copies themselves. Neither the board nor awarding agencies were expected to furnish them.

The board has stated that after initial publication, the regulations may be changed and perfected from time to time. In general, in the proposed form the regulations made all contracts with the following federal agencies subject to renegotiation to the extent of amounts received or accrued on or after the indicated dates:

Jan. 1, 1951: Department of Defense, Department of Commerce, General Services Administration, Atomic Energy Commission, Reconstruction Finance Corporation, Canal Zone Government, Panama Canal Company, Housing and Home Finance Agency.

July 1, 1951: Federal Civil Defense Administration, National Advisory Committee for Aeronautics, Tennessee Valley Authority, U. S. Coast Guard.

Oct. 1, 1951: Defense Materials Procurement Agency, Bureau of Mines, Geological Survey.

Nov. 1, 1951: Bonneville Power Administration.

The act does not apply to amounts received or accrued on or after Jan. 1, 1951 which are attributable to performance before July 1, 1950 under contracts not subject to the 1948 Renegotiation Act.

Report Forms

The "Standard Form of Contractor's Report", being mailed to contractors with contracts or subcontracts related to defense, are in two parts, RB Forms 1 and 1B. Form 1 is to be filed by March 1 in the case of contractors or subcontractors whose fiscal year ended before Nov. 30, 1951, and by April 1 for those whose fiscal year ended Dec. 31. Form 1B need not be filed until two months later.

Renegotiation of defense contracts which are subject to the 1948 act will be handled by the Renegotiation Board under an agreement reached between the chairman and the Secretary of Defense. The Secretary delegated to the Board on January 20 the powers and functions he formerly exercised under the 1948 act.

This places all defense contract renegotiation operations under one agency. Personnel, records and unobligated funds of the Military Renegotiation Policy and Review Board of the Armed Services Renegotiation Board together with its Army, Navy and Air Force Divisions were transferred to the Renegotiation Board.

The Renegotiation Board was established as an independent agency by the Renegotiation Act of 1951. The personnel transferred from the previous boards will be assigned to regional offices being established in New York, Chicago, Los Angeles and Washington.

Wunderlich—*Continued from page 25*

founded upon an express contract with the United States containing a provision purporting to make the decision of a federal officer final and conclusive with respect to any dispute involving a question of fact arising under the contract, the court shall nevertheless decide the case without regard to any such decision which it finds was founded on fraud, or involved such gross mistake as necessarily implied bad faith, or was arbitrary or capricious.

"This section shall not apply with respect to any such decision which became final more than one year before the date of enactment of this section."

"Sec. 2. The analysis of chapter 91 of title 28 of the United States Code is amended by adding at the end thereof the following:

"1506. Review of decisions under 'finality clauses' in government contracts."

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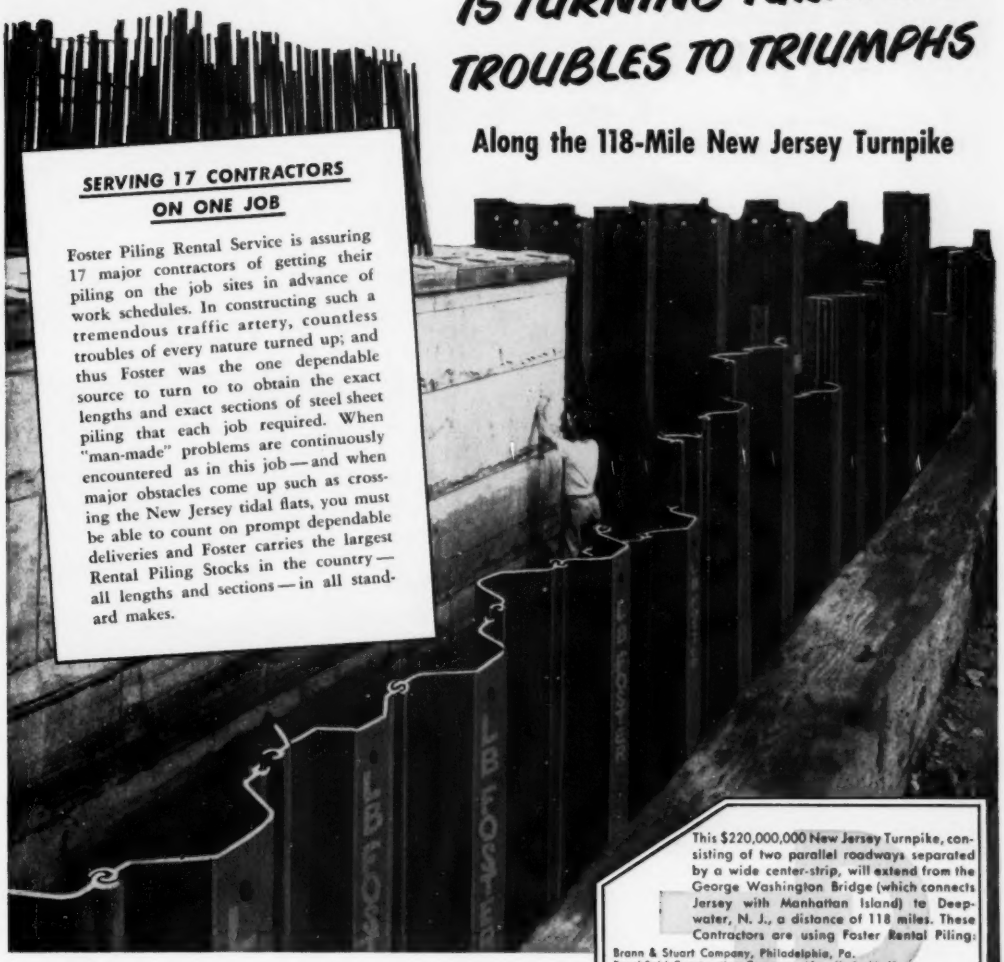

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Franklin Contracting Company, Newark, N. J.
Grow Construction Company, Inc., New York, N. Y.
Jaggard Engineering Company, Westmont, N. J.
Linde-Griffith Construction Corporation, Newark, N. J.
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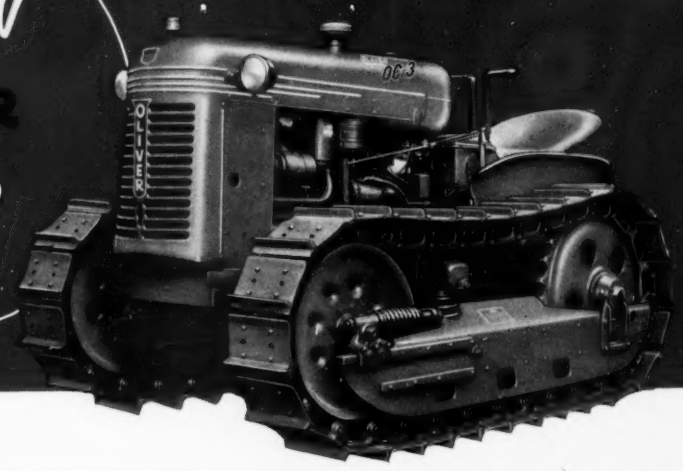

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Budget Recommends $7.4 Billion Federal Construction Program

• Civil Public Works Cut; Defense Outlay Rises

» THE ADMINISTRATION'S record $85.4 billion budget for fiscal year 1953 beginning next July 1 recommends $7.4 billion in federal construction expenditures, divided almost equally between civil public works and defense construction.

The $3.8 billion figure for civil works is slightly below estimated expenditures for this purpose in the current fiscal year ending June 30, while the $3.6 billion estimated for defense represents a 29% increase.

"Substantial curtailment of nondefense construction in the face of current heavy defense requirements" was reported in the budget to reduce demands for scarce materials. However, it was pointed out that in many instances "it has been necessary to allow for expanded construction programs or for construction of new projects in order to provide for critical regional defense requirements or for some long-term development of our natural resources to maintain national strength."

While Congressional economists were freely advocating up to $15 billion cuts in the budget before its transmission by the President, these estimates narrowed down to a figure of around $5 billion that Congressmen had any reasonable hope to achieve in an election year. Congress in general appeared in no mood to increase taxes again—especially in view of elections—to make up for any of the $14.5 billion deficit anticipated by the budget.

Also, it appeared difficult to achieve substantial cuts in spending because the government will have about $73 billion of unexpended funds on hand when the new fiscal year starts, and any paring would be felt in future years.

Budget Message

Of the $85.4 billion total, 76% is slated for what the President called "major national security programs," including military expenditures and foreign aid.

In transmitting the budget, the President used public works as the primary example of his reductions in non-defense spending:

"I have sharply reduced expenditures for those programs which can be deferred or eliminated, even though these programs bring clear benefits to the nation and would be highly desirable in normal times. For example, many long-range programs for the development of our natural resources are being deferred in order to place greater emphasis on meeting current defense requirements.

"This budget contains funds for only half as many general flood-control projects as my budget of 2 years ago. New starts on flood control, reclamation, and river and harbor works have been limited to urgently needed power projects, flood-control projects in the Kansas-Missouri area, and emergency rehabilitation work which cannot be deferred. The federal-aid highway program will remain below the authorized level of 500 million dollars, and major emphasis is being placed on improving the network of roads most essential to defense and civilian traffic. Expenditures for rural electrification and rural telephones have been reduced. All major programs for housing and community development outside critical defense housing areas will be held substantially below the levels authorized by basic legislation."

Defense Construction

Defense construction totaling $3.6 billion was recommended in the budget, compared with $2.8 billion in expenditures estimated for this fiscal year, and less than half a billion in fiscal year 1951.

Bulk of the total will be expended by the Defense Department for training and testing facilities, warehouses, new bases and troop housing at home and abroad—estimated at $3.5 billion, compared with $2.7 billion for fiscal year 1952.

The remainder will be for completing reactivation of magnesium and nickel plants in the National Industrial Reserve, storage facilities for stockpiling strategic materials, aeronautical research facilities, and synthetic rubber plants.

Civil Construction—Building

In the civil works budget, construction primarily building again leads with expenditures recommended at $1,739 million. Several regular domestic programs were cut, but others added, with the net result a figure more than $100 million under expenditures estimated for the current fiscal year.

The major item of nearly $1 billion for atomic energy construction again is to be spent mostly on production facilities, with housing and townsite construction scheduled to decrease rapidly. The Savannah River and Paducah, Ky., sites will account for most expenditures.

Cut down substantially were the programs of federal-aid hospital construction, veterans' hospitals, and miscellaneous federal building.

More modest recommendations were included this time for dispersal of federal buildings and civil defense structures. The President asked an appropriation of only $15 million for dispersing essential government buildings away from the Washington, D. C., area, with only $5 million estimated for actual expenditure during the next fiscal year.

To initiate a $1.7 billion protective shelter program under the Federal Civil Defense Administration, he asked for an authorization of $250 million, out of which $50 million is estimated needed for the next fiscal year "in commercial or industrial zones where the need for protective shelters is greatest."

The federal share in the total program to match state and local funds was put at $865 million. It is intended to embrace both modification of existing structures and construction of single-purpose shelters.

The President reduced total housing programs to "free materials and manpower for more essential uses and to help stabilize prices and wages in the construction industry." The low-rent public housing program was reduced almost by half its authorized size, and he recommended holding housing starts to 850,000 "or even less," depending upon the availability of materials.

However, a $325 million appropriation was requested for defense housing and facilities, of which $212,500,000 was recommended for expenditure in a program calling for placing 400,000 new units under construction in critical defense areas during the next 18 months.

A substantial increase in school construction also was proposed through $150 million of new authority under existing law, and amendment and ex-

Federal Construction Budget

Construction Primarily Highway-Airport

Agency or Function	Expenditures	
	Fiscal 1952 Estimate	Fiscal 1953 Estimate
Department of the Interior		
Construction of access roads	$573,717	$1,054,000
National Park Service, construction	20,649,910	14,310,885
Office of Territories, Alaska roads	22,482,071	17,782,000
Department of Agriculture, Forest Service		
Forest development roads and trails*	6,700,000	4,400,000
Roads and trails for States, national-forests fund	3,650,000	3,009,000
Forest roads and trails	94,369	
Department of Commerce, Bureau of Public Roads		
Federal-aid highways*	396,600,000	387,900,000
Federal-aid highway system	2,319,852	
Federal-aid secondary or feeder roads	1,077,053	
Elimination of grade crossings	4,661,284	500,000
Forest highways	21,000,000	24,636,424
Tongass Forest Highways, Alaska	1,800,000	3,800,000
Public lands highways	1,356,296	600,000
Access roads	7,837,418	27,000,000
All other grants	3,467,825	1,500,000
Inter-American Highway**	2,100,000	4,100,000
Other	203,644	
Flight strips (national defense)	176,700	
Establishment of air-navigation facilities	21,000,000	18,000,000
Construction, Washington National Airport	378,508	32,894
Federal-aid airport program*	34,370,000	27,457,500
Construction of public airports, Alaska	4,599,449	1,160,000
Total, for construction primarily highway and airport	**557,298,096**	**537,242,703**

Construction Primarily Building

General Services Administration		
Veterans' educational facilities	$6,906	
Hospital Center, District of Columbia	281,715	$1,000,000
Geophysical Institute, Alaska	128,049	
Federal Courts Building, D. C.	4,700,000	323,154
Renovation, Executive Mansion	2,683,491	
Federally owned buildings outside D. C.	10,000,000	5,300,000
General Accounting Office Building	2,500,000	614,107
Federal Office Building, Nashville, Tenn.	1,500,000	168,399
Sites and planning, buildings outside D. C.	4,750,000	3,000,000
Public buildings outside D. C.	4,000,000	1,430,000
U. S. Post Office, Chicago, Ill.*		1,700,000
Federal Supply and Records Building	300,000	3,800,000
Dispersal of Government facilities		5,000,000
All other general government	1,293,354	566,211
Veterans Administration		
Hospital and domiciliary facilities	209,321,032	105,424,416
Administrative facilities	547,847	
Major alterations, improvements, repairs		1,500,000
Philippines, grants for veterans' hospitals	1,600,000	3,900,000
Department of State, Foreign Service buildings*	8,000,000	6,780,000
Architect of the Capitol		
Changes and improvements, Capitol power plant	3,432,516	7,806,705
Senate Office Building	60,261	
Capitol Building, Senate and House	206,606	

(Continued on page 33)

NOTE: Expenditures include liquidation of contract authorization.

* Includes only that part of authorization used for construction.

** Not classified in the budget as "civil public works." Either "international public works," "semipublic works," or "construction aids to private business and individuals."

tension of this legislation beyond the expiration date of June 30, 1953, to provide another $75 million of new authority to construct schools in critical defense housing areas. The President estimated about $170 million would be spent for schools in the next fiscal year.

Referring to progress in a three-year nationwide survey of school needs by the states, he said the information will help determine "what the future role of the federal government should be in relation to school needs. . . .

"It is gratifying that, despite the shortage of structural steel, we have been able to make enough available for the first half of 1952 to continue and even increase this rate of construction on the basis of modified designs which require less steel."

Heavy Construction

The President stressed power projects in the heavy category and scheduled funds for other projects already under construction to bring them to completion "at an orderly and economical construction rate, or to a point where they can be stopped without losing benefits already gained or impairing the value of investments already made."

To exemplify the retarding or suspension of "many desirable projects" since the Korean war began, he pointed out that the budget of two years ago included funds for 122 general flood control projects; that these were reduced to 102 after the attack on Korea; and the present budget recommends funds for only 64 such projects, 60 of which already have been initiated.

While regular flood control and river and harbor works are being depressed, the recommended expansion of work on power features of projects and the proposal of four new river development projects brought the budgeted expenditures for heavy construction to $1,147 million, or 7% above estimated outlay for the current fiscal year.

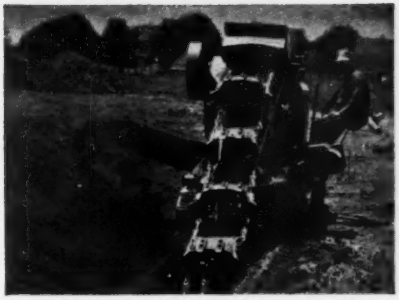
Power Projects Get 50%

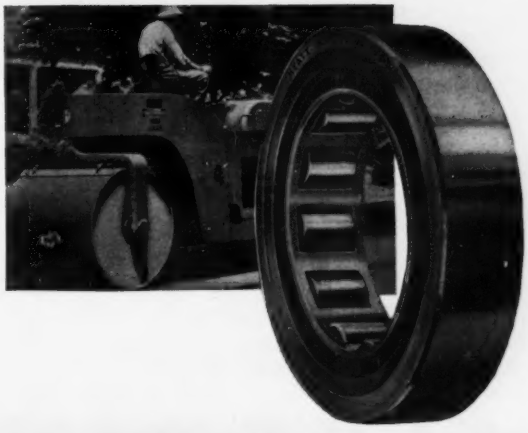
More than 50% of expenditures for projects under way by the Corps of Engineers and Bureau of Reclamation in fiscal 1953 will be spent on multiple-purpose projects providing power benefits.

Three of the four new power projects are proposed for the Corps of

(Continued on page 33)

HYATTS help build highways





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Here's another *big* reason Lorain-50's, models I, K & S, are so outstanding in the 1-yd. class! When Air goes to work on a "50", your operator just can't help but give you more yards-per-hour; more profit-per-day. Why? Because he's benefiting from these important operating advantages . . .

HOIST — Air-Assist — *allows the operator to retain that important finger-tip, sensitive "feel" of just what his machine is doing.**

CROWD — Air-Assist — *requires less manual effort from the operator; reduces operator fatigue; Air keeps the crowd clutch applying digging power until the dipper breaks out of the bank.**

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CRAWLER STEERING AND TREAD-LOCK OPERATION—Air-Controls— *Air makes it faster and easier to steer the Crawler — or set the Tread Locking Pawls — from the operator's station, regardless of the Turntable swing position.*

All Air Controls are equipped for quick switch-over to straight, manual, mechanical operation in cases of emergencies. Immediate take-over; no adjustment; no loss of time.

* All these features apply to the Air-Assist control of Hoist, Crowd, Drag-in and Retract.

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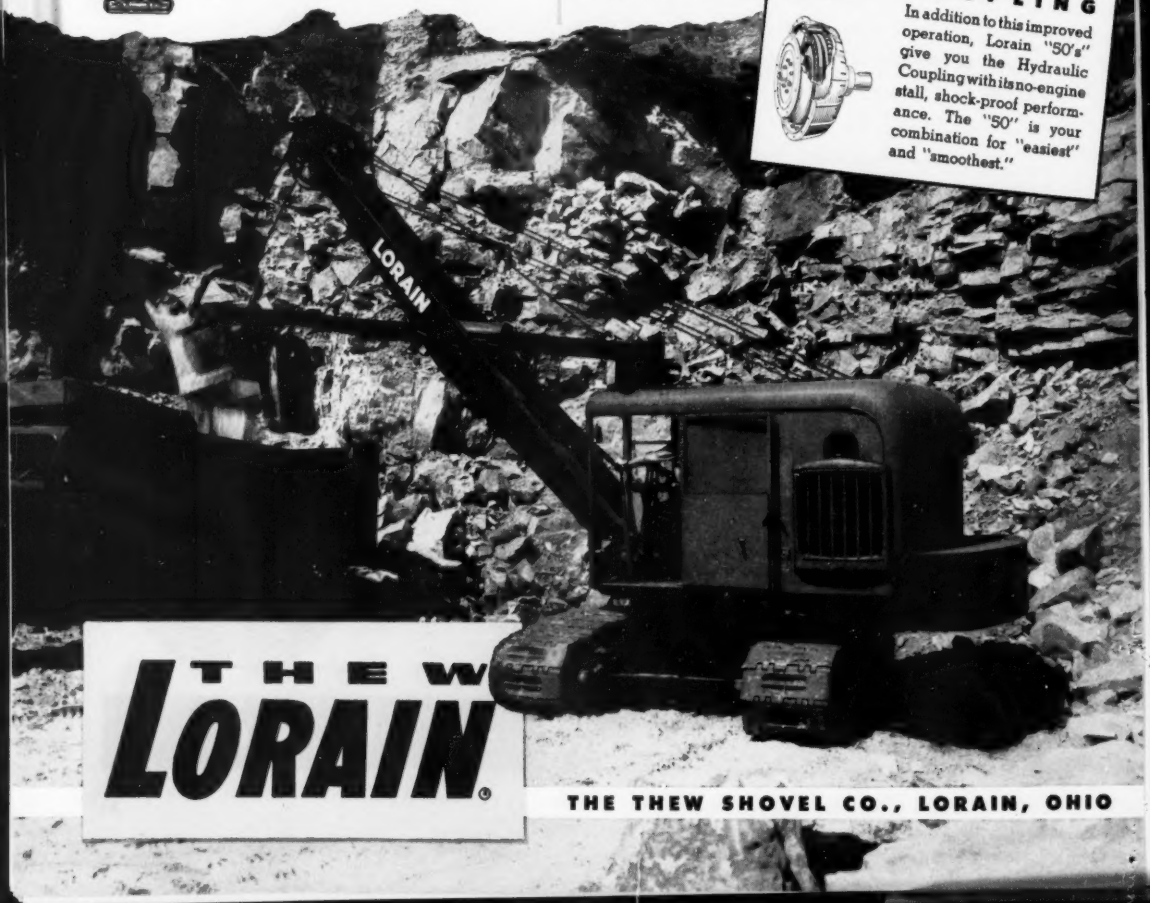


THE NEW LORAIN®

THE THEW SHOVEL CO., LORAIN, OHIO

(Continued from page 30)

Engineers: The Hartwell reservoir in the Upper Savannah River Basin and the Ice Harbor lock and dam in the lower Snake River Basin, both of which have been authorized; and the St. Lawrence Seaway, which requires new legislation. The fourth—Hell's Canyon dam and reservoir on the Snake River—would be built by the Bureau of Reclamation, and also requires legislation.

Other new projects by the Engineers: Tuttle Creek reservoir in the Kansas River Basin and local protection works at Topeka and Cape Girardeau, Mo., for flood control. Funds also are proposed to continue planning of Niagara power facilities.

Only one other new project is included for Reclamation: the Glen Elder Dam on the Solomon River for flood control. Nearly 90% of Reclamation funds will be used on 6 major projects and 20 units of the Missouri River Basin program. The major projects are the Central Valley in California, Colorado-Big Thompson in Colorado, Hungry Horse in Montana, Columbia Basin in Washington, Palisades in Idaho, and Eklutna in Alaska.

Increases were recommended in funds for the Southwestern, Southeastern and Bonneville Power Administrations. The Tennessee Valley Authority will continue with a tremendous program of $248 million including 8 new steam electric generating units and 3 more generators at existing dams to meet atomic energy and other requirements.

Highway-Airport Construction

The worst blow for highways came in the President's proposal that a new federal-aid authorization of only $400 million annually—$100 million below the present authorization—be made on the basis that the federal government should concentrate its aid only on those projects "of national interest which are most urgently needed for defense and essential civilian transportation."

He said, in part:

"Partly as a result of the steel shortage, this (federal-aid) program will remain below the authorized annual level of 500 million dollars, with expenditures estimated at 412 million dollars in the fiscal year 1952 and 400 million dollars in 1953. Within this program, special emphasis is being placed on the Interstate High-

BUILDING—Continued

Agency or Function	Expenditures	
	Fiscal 1952 Estimate	Fiscal 1953 Estimate
Department of the Army, Corps of Engineers		
Canal Zone Government*	$5,500,000	$4,825,000
Panama Canal Company: construction*	11,400,000	12,612,000
Atomic Energy Commission*	1,070,543,000	949,687,000
Department of the Interior, Bureau of Mines	2,500,000	3,200,000
Department of Agriculture		
Commodity Credit Corp., storage facilities**	8,850,000	7,320,000
Research facilities*	120,556	216,000
Farm ownership and housing loans, gross**	40,087,001	38,000,000
Department of Commerce, Bureau of Standards	1,765,966	2,787,615
Federal Security Agency		
Office of Education, School construction*	103,984,209	169,713,325
Howard University, construction**	3,700,000	3,700,000
Public Health Service		
Grants for hospital construction*	75,538,486	61,498,819
Grants for nonpublic hospitals**	79,600,000	64,800,000
Construction of research facilities*	19,327,000	11,804,000
Buildings and facilities, Cincinnati, Ohio*	2,449,599	1,314,079
Heart and cancer research facilities*	3,076,763	1,000,000
Heart and cancer nonpublic research**	5,400,000	500,000
Saint Elizabeth's Hospital	1,640,397	2,660,000
Department of Justice	2,303,279	2,342,000
Housing and Home Finance Agency		
U. S. Housing Act program, loans, gross	360,888,000	264,383,000
Repayments	†234,696,000	†332,660,000
Alaska housing	1,125,000	
Loans to educational institutions, gross**	6,500,000	32,000,000
Defense housing	12,225,000	237,775,000
Federal Civil Defense Administration*	600,000	52,400,000
Loan to United Nations, gross**	12,300,000	1,100,000
Total, for construction primarily building, net	**1,852,040,033**	**1,739,290,730**

Construction Primarily Heavy-Railroad

Department of Agriculture		
Water conservation and utilization projects	$391,664	$235,500
Water facility loans**	5,000,000	6,000,000
Flood control*	350,000	430,000
Flood control structures on farmers' lands**	2,500,000	2,500,000
Department of the Interior		
Water conservation and utility projects	311,487	
Southwestern Power Administration*	4,800,000	5,000,000
Southeastern Power Administration	325,000	4,000,000
Bonneville Power Administration	50,000,000	52,500,000
Bureau of Reclamation		
Construction and rehabilitation*	238,277,405	221,110,353
Hells Canyon project (proposed legislation)		6,000,000
Rehabilitation of Alaska Railroad	12,434,701	15,000,000
Tennessee Valley Authority, public works*	228,185,391	248,094,000
Department of the Army, Corps of Engineers		
Flood control, general*	335,000,000	329,000,000
Flood control, general, emergencies	15,000,000	10,000,000
Flood control, Mississippi River and tributaries*	44,900,000	44,000,000
Flood control, Sacramento River, Calif.	2,000,000	1,100,000
Flood control, all other	1,004,223	542,600
River and harbor works, multiple-purpose projects*	77,200,000	145,100,000
Niagara power development	450,000	750,000
St. Lawrence project (proposed legislation)		15,000,000
River and harbor works, navigation projects*	43,300,000	27,400,000
Alterations of bridges over navigable waters	580,000	

† Deduct.

* Includes only that part of authorization used for construction.

** Not classified in the budget as "civil public works." Either "international public works," "semipublic works," or "construction aids to private business and individuals."

HEAVY—Continued

Agency or Function	Expenditures	
	Fiscal 1952 Estimate	Fiscal 1953 Estimate
Department of State		
International Boundary and Water Commission	$10,862,375	$13,650,000
Total, for construction primarily heavy-railroad, net	**1,072,872,246**	**1,147,412,453**

Miscellaneous Public Works

Department of the Army, Civil Functions		
Quartermaster Corps, cemeteries*	$631,000	$471,000
International information and education activities*	35,000,000	27,342,000
Department of State		
Restoration of salmon runs, Fraser River system	126,000	20,000
Federal Security Agency		
Defense community facilities and services***	14,750,000	15,000,000
Reconstruction Finance Corporation		
Provision of community facilities, loans	12,700,000	23,000,000
Repayments	†4,200,000	†3,900,000
General Services Administration, community facilities, defense public works	400,000	550,000
Department of the Interior		
Virgin Islands public works	2,449,843	3,400,000
Alaska public works	9,420,761	15,000,000
Bureau of Indian Affairs, construction	18,654,700	26,300,000
Fish and Wildlife Service, construction	1,600,000	800,000
Geological Survey, Denver Federal Center*	630,000	900,000
Housing and Home Finance Agency		
Advance planning of non-Federal public works*	8,207,644	2,524,500
Defense community facilities and services***	7,178,500	35,296,500
Department of Agriculture, Forest Service		
Protection and management construction*	300,000	300,000
Smoke jumper facilities		725,000
Rural Electrification Adm. loans, gross**	$42,000,000	$15,000,000
Treasury Department, Coast Guard Construction*	9,430,517	5,027,406
American Battle Monuments Commission	4,000,000	6,000,000
Total, miscellaneous public works, net	**363,278,965**	**373,756,406**

Defense Construction

Department of Defense, military functions		
Acquisition and construction of real property	$2,700,000,000	$3,500,000,000
Military construction, Army civilian components	5,000,000	30,000,000
Construction Alaska communications system	1,000,000	3,000,000
Construction, water supply facilities, San Diego	3,000,000	13,000,000
General Services Administration		
National Industrial Reserve*	15,000,000	6,000,000
Strategic and critical materials, storage facilities*	30,000,000	24,000,000
National Advisory Committee for Aeronautics		
Construction and equipment	15,000,000	10,000,000
Construction and equipment, unitary plan	5,000,000	15,000,000
Reconstruction Finance Corporation, synthetic rubber facilities*	31,000,000	20,000,000
Total, defense construction	**2,805,000,000**	**3,621,000,000**
Total, all civil works, net	**3,845,489,340**	**3,797,702,292**
Total, all federal construction	**6,650,489,340**	**7,418,702,292**

* Includes only that part of authorization used for construction.

** Not classified in the budget as "civil public works." Either "international public works," "semipublic works," or "construction aids to private business and individuals."

*** May also include loans, direct federal construction, and nonconstruction expenses; amounts not to be separated.

way System—a limited network of roads most essential to both civilian and defense highway traffic. . . . Although a need clearly exists for a high level of road improvement, state and local governments must continue to assume the primary responsibility for financing such construction."

Proposed expenditures for access roads were almost quadrupled to $27 million to cover "only roads of special defense urgency, which are not required for normal civilian traffic."

Airport grants are to be limited primarily to terminal-type airports, and air-navigation facilities also are being limited to urgent needs.

Miscellaneous Public Works

The budget continued its 1952 departure from the long established listing of civil public works by distinguishing from this category what it terms "semipublic works," "international public works" and "aids to private business and individuals." Those items which could clearly be classified as direct federal expenditures for construction are included in the tables on these pages, and are as follows:

International and semipublic works: United Nations building loan, Inter-American Highway, Philippines veterans' hospital grants, REA loans, loans to educational institutions for housing, grants for nonpublic hospitals and medical research institutions, and Howard University construction.

Aids to private business and individuals: Farm construction and water facility loans, flood control structures on farmers' lands, and loans and guarantees for construction of farm storage facilities.

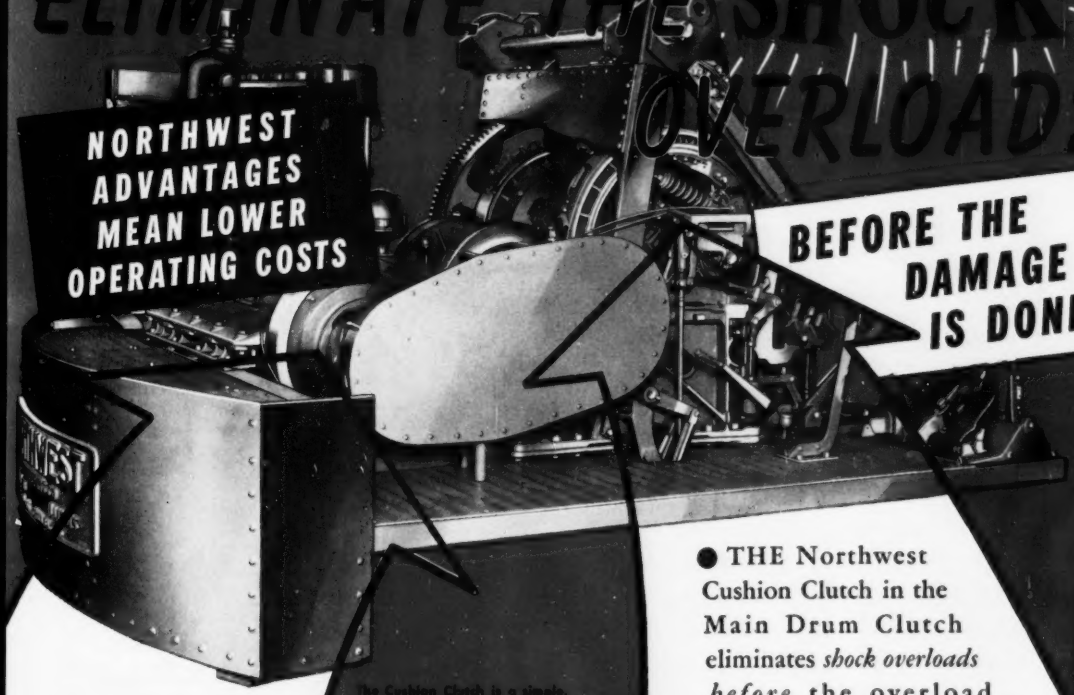
Other federal programs have major effects on construction volume, but cannot be readily broken down into expenditures for construction as such. These include the government's programs of loan guarantees and other encouragement to housing and urban redevelopment; and the incentive program for industrial expansion offered under the Defense Production Act and related legislation: certificates of necessity to permit rapid tax amortization, guarantee of loans; guaranteed prices, direct loans, advances against production, and purchase contracts at higher than ceiling prices.

Permission already has been granted to rapidly amortize $12 billion of industrial facilities under the tax certificate program.

ELIMINATE THE SHOCK OVERLOADS

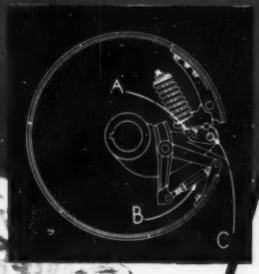
NORTHWEST ADVANTAGES MEAN LOWER OPERATING COSTS

BEFORE THE DAMAGE IS DONE!



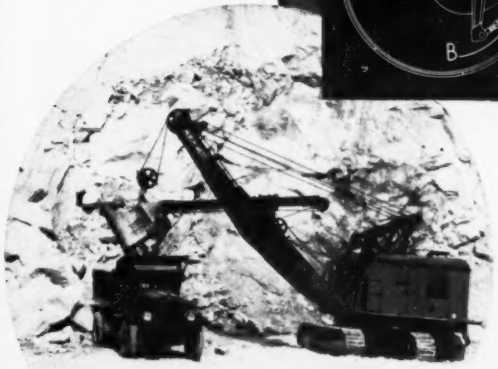
Protective devices at this point (between the engine and operating machinery) act after the shock load has passed through shafting and gearing. The Northwest Cushion Clutch catches the overload caused by the inertia stored in the rotating parts ahead of the engine.

The Cushion Clutch is a simple, positive device. The joint at "A" remains closed until overload point is reached. An overload causes the joint to open through the driving pin "C" and the clutch slips enough to cushion the shock of the load. The clutch is adjusted by the turnbuckle "B". There is no other adjustment.



● THE Northwest Cushion Clutch in the Main Drum Clutch eliminates *shock overloads before* the overload reaches the machinery, not *after* they have been carried through the machinery with resulting strain and possible damage.

The Northwest Cushion Clutch reduces overloads on the drum shaft and associated parts. It results in reduced frequency of adjustments. It lengthens machine life and puts money in your pocket by reducing wear and tear.



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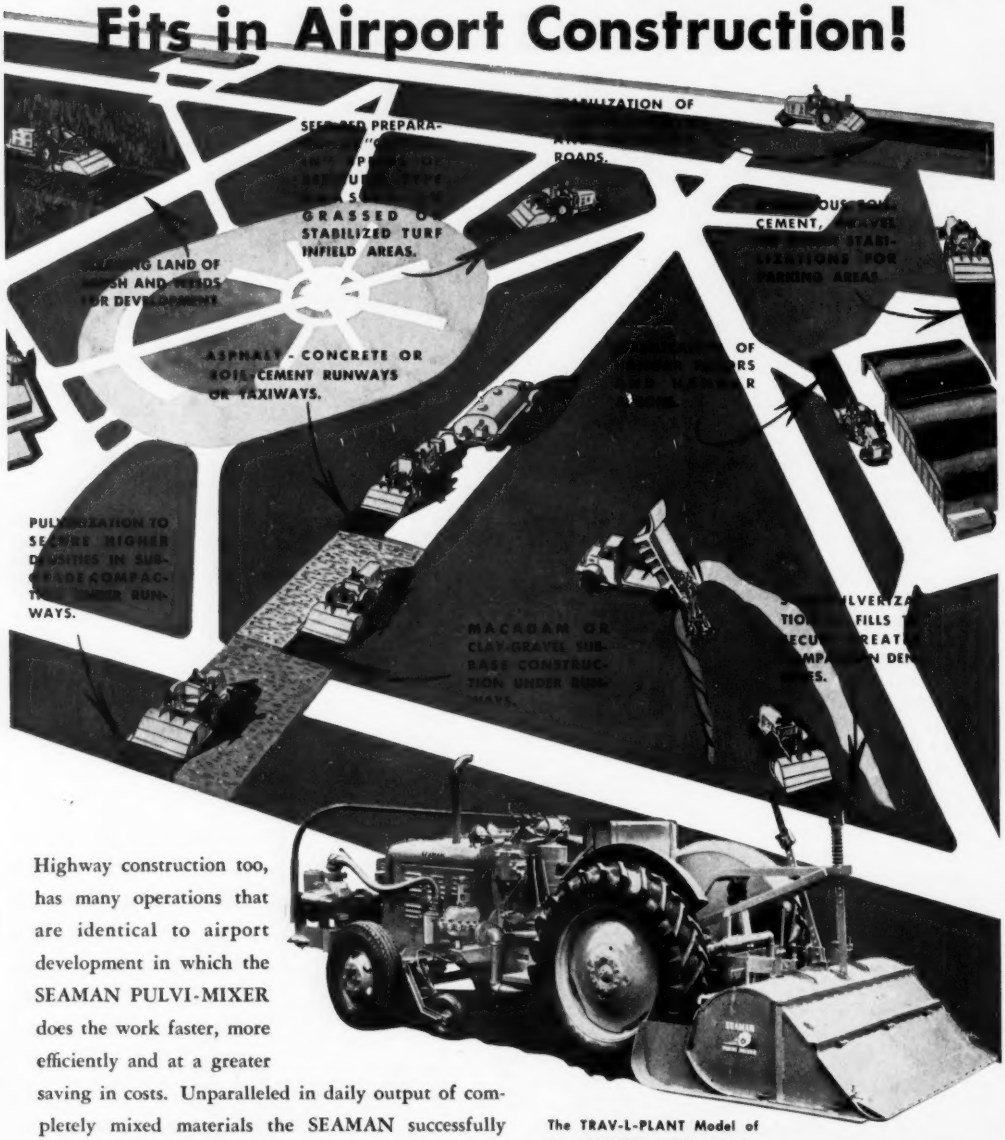
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British Prestress Concrete Road Slabs

• Experiments with Method Reveal 45% Saving in Steel

(The Constructor is indebted to The British Constructional Engineer and Editor Lawrence McCarthy for the information and pictures for this article.—The Editor)

» ALTHOUGH American engineers and contractors have had experience with prestressed concrete tanks and have been testing prestressed concrete beams, they have acquired little knowledge of prestressed concrete slabs. Within the last few weeks, a Texas research firm has cast a prestressed slab roof, the first use of the method for buildings in this country (January Constructor). Nothing has been done with prestressed concrete slab for highways.

Precedent Practically Unknown

Even in Europe, where the method was developed, little use has been made of it for road or airport construction. Two examples known are a runway laid at Orly Airport, Paris, in 1945 and a short length of road approaching a bridge over the Marne River, finished in 1949.

Recently, however, British engineers have created some imaginative experiments with the process for road slabs of fairly good size. They have tested several methods of positioning the stress wires and tensioning them. In their hands, the method is becoming more versatile and they are discovering some of the weaknesses of various applications. One of the revelations of particular interest to U. S. highway contractors is the apparent steel saving—45% in one of the experiments described.

FIGURE 1—British engineers prestress highway slab by means of four Freyssinet cables running length of 110-ft. slab. Shown here is end of slab with jacks in position on two inside cables.

One of the first tests by the British Cement and Concrete Association was of a 190-ft. long stretch laid as a single slab late in 1950. On the site, an existing gravel drive at Wexham Place, the engineers excavated to the required depth and poured a 3-in. lean-mix concrete base on compacted subgrade. This base was then given a bituminous spray before the experimental slab was superimposed.

The road slab, 11 ft. 6 in. wide and 6 in. thick, was to be prestressed longitudinally, in main, in a unique manner—with tension applied at its center. A gap was left midway down each of the long sides of the slab. In these gaps the Freyssinet cables running through the form were terminated and here the stress was applied (See Figure 2).

In all four of these British experiments, Freyssinet cables were employed in the prestressing operation. Eight to 18 high-tensile wires are spaced separately on a spiral core. This cable is inserted through steel sheathing or rubber tubing laid in the form before the concrete is poured. When the concrete has set, these cables are anchored at one end and each is tensioned as a unit by a jack. After a cable has been tensioned to the desired tautness, a center ram in the jack drives home a conical wedge—thus securing all wires under load. The anchorage, usually set in the beam or slab, is then grouted for protection against corrosion.

In the northern half of the slab, the stress cables ran from the center gap (where they had been anchored in concrete blocks) along one side to the northern end, across the end, and back along the other side to the opposite

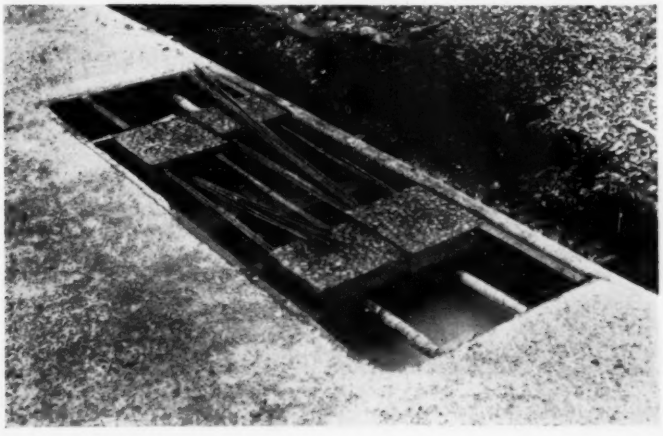

FIGURE 2—On this 190-ft. slab stress cables were tensioned at the center of slab and anchored to concrete blocks shown in gap.

gap and another set of anchor blocks.

In the southern half, the cables were laid from the gap to the southern end of the road, where about 6 ft. of cable was fanned out to bond with the concrete. Theoretically, this arrangement of the wires should have provided continuous stressing throughout the entire length of the slab.

Anchor Blocks Fail to Hold

The first anchor blocks failed in shear under tension and the fanned-out cables did not bond well. In a second attempt, stronger blocks were installed in the gaps and the ends of the cables were hooked. Unfortunately, the stress wires bound somewhere in the slab and uniform stress was not obtained.

In March, 1951, the association undertook another test, this time laying two cables down each of the long sides of a slab, anchoring them fast at one end and tensioning them at the other (See Figure 1). In this instance the slab was 110 ft. long, 11 ft. wide and 6 in. thick.

The experimenters tried the same arrangement on a 130-ft. slab with only one cable down each side. As in the previous case, the cables—tensioned when the concrete was 14 days old—yielded only about two-thirds of the expected extension of the wires under 75 tons per sq. in. It was assumed the cables had bound to the concrete during the heavy compaction. They had been encased only in light steel sheathing.

Long Slab Laid at Crawley

At Crawley, Sussex, another British group recently laid a 400-ft. slab for prestressing. It was in this test that a 45% saving in steel was effected. As in previous projects, the amount of tension to be applied required some original computations. The comparatively light tension decided on (200 psi.) is not expected to prevent cracking under load and temperature stress, but it is sufficiently high, the experimenters believe, to insure closing of the cracks when stress is removed.

The 4-in. sub base on the Crawley Road test was of clinker with a thin layer of sand rolled on top. Waterproof paper was laid on that.

It was decided to fix the Freyssinet anchorage cones for this experiment in high-grade concrete haunches running the length of the main slab on both sides (See Figure 3). Then, the cables could be strung criss-cross manner from haunch to haunch across the slab. The haunches were poured later.

FIGURE 3—The Crawley Road experiment. Haunches like the one above ran full length of the 400-ft. slab. Stronger concrete in these forms held the anchorage cones from which stress cables ran criss-cross throughout the main slab.

Sixteen-gauge, mild-steel sheathing to hold the cables were laid throughout the form in the pre-arranged pattern before the pouring. Through this sheathing the 12-wire Freyssinet cables were threaded (See Figure 4).

A central construction joint made it possible to lay the 400-ft. long slab in four operations. The 200-ft. by 12-ft. sections were linked by ½-in. tiebars across the central longitudinal joint and by a short length of fabric reinforcement across the transverse construction joint.

Three weeks later, the engineers undertook the prestressing phase. They used four jacks operating from two pumps to stress the slab as uniformly as possible. With a jack at each end of each cable, a stress of 80 tons per sq. in. was obtained.

The cables were grouted up with neat cement after clean water was injected under pressure. The anchorage cone recesses in the haunches were also concreted secure.

Pending determination of exact expansion of the slab, a 5-ft. expansion bay was placed at each end. Strain gauges imbedded in the slab and fixed points along the sides will reveal measurements of movement.

45% Steel Saving Noted

A breakdown of the steel used in the 400-ft. stretch shows a use of 1800 pounds of bar reinforcement, 200 pounds of fabric reinforcement, 1600 pounds of sheathing and 1.7 tons of high tensile steel wire in the cables. This totals only 3.5 tons in comparison with the 6 tons used in normal construction for a similar length of road.

While the extra labor involved in prestressing has heretofore discouraged its wide use in the U. S., its low steel requirement is making it a topic of interest just now. If circumstances encourage acceptance of the method here, American engineers and construction men will benefit from the pioneering experiments being made now in England.

(More about prestressed concrete will be revealed at the American Concrete Institute convention later this month. See March issue of THE CONSTRUCTOR *for report of the event.)*

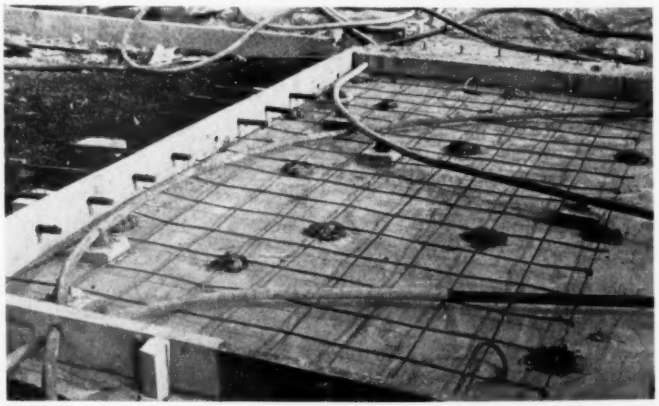

FIGURE 4—Arrangement of Freyssinet cables at one end of 400-ft. form. The cables are inside the sheathing so they do not bond with concrete and can be tensioned after the concrete has been poured and set.

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The newly designed B-G Model 363 Portable Conveyor is an extremely flexible machine that will prove to be profitable to yards, industrial plants, contractors, etc. Speeds up stockpiling or transfer of material from car or stock pile to trucks. Entirely new in design, the 363 features V belt drives, pneumatic tires, shock absorbers, towing hitch, and a host of new improvements. Send for new attractive literature on these two great B-G machines.

B-G BARBER-GREENE COMPANY, AURORA, ILLINOIS

Constant flow Equipment

LOADERS PERMANENT CONVEYORS PORTABLE CONVEYORS COAL MACHINES BITUMINOUS PLANTS FINISHERS DITCHERS

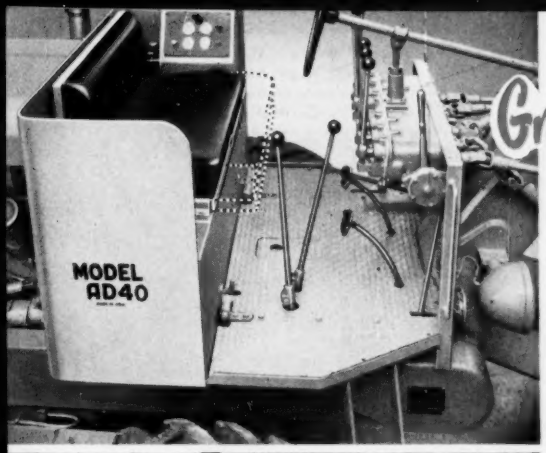
NOW! a Great New HEAVY-DUTY GRADER

Allis-Chalmers AD-40

Weight—23,000 lb.
(24,800 lb. with optional calcium chloride in tires)

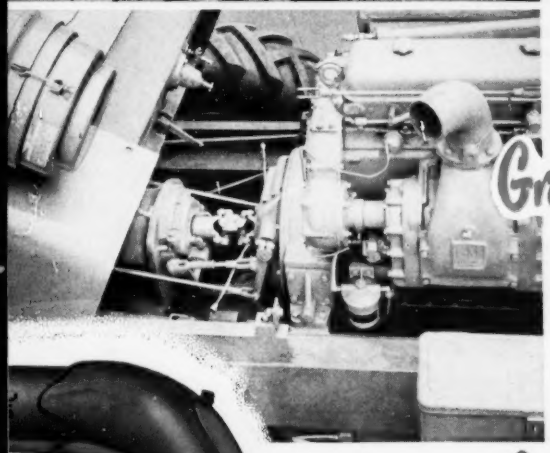
104 Brake hp.

Built to handle All Jobs —FASTER, EASIER



Great New operating ease

No other grader has been designed with the operator more in mind. **Unmatched Visibility**—Single tubular frame from front to platform, new lift cases, low control box and tapered platform give operator a full view of what he is doing. **Feather-Touch Steering** — New hydraulic booster system, fully enclosed in the frame, provides effortless steering with positive control even under toughest conditions. **All-Around Comfort**—Roomy platform, adjustable seat (as shown) and simple controls offer any size operator true comfort—sitting or standing.



Great New service simplicity

Here's maintenance and repair accessibility second to none. Combined fuel tank and seat unit tilts forward for easy access to clutch, transmission and drive shaft. Transmission can be removed without disturbing floor plates. Power take-off and hydraulic pump are mounted outside the dash.

Great New performance

Add these outstanding operator and service advantages to the exclusive Allis-Chalmers features that include ROLL-AWAY* Moldboard — extra high clearances from front to rear — shock-absorbing tubular frame—dependable General Motors 2-Cycle diesel power . . . and you have the finest heavy-duty grader on the market. Get the full story on this new AD-40 from your Allis-Chalmers dealer now.

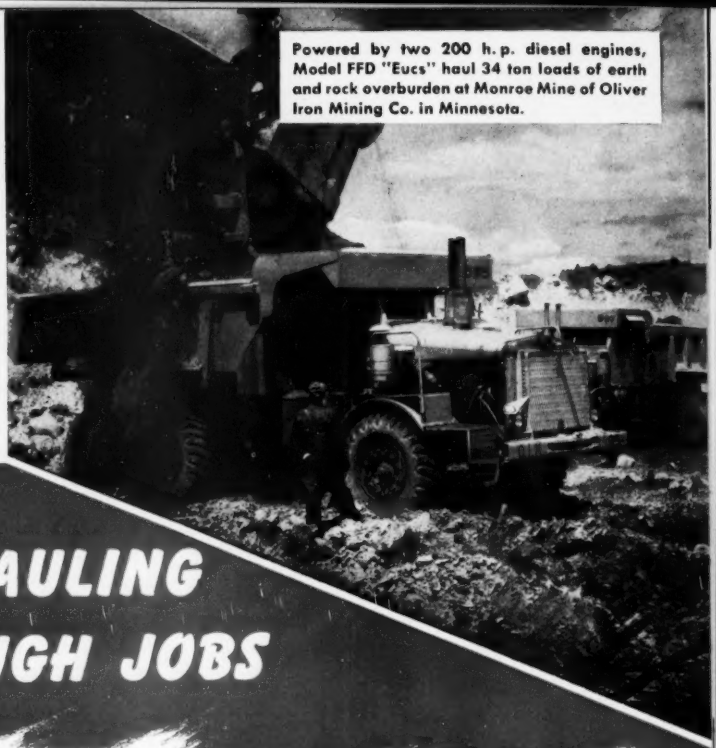
ROLL-AWAY is an Allis-Chalmers Trade-mark.

ALLIS-CHALMERS

TRACTOR DIVISION • MILWAUKEE 1, U. S. A.

• Designed for Your Job • Built to Take It • Easy to Operate • Easy to Service

"EUCS" for



Powered by two 200 h.p. diesel engines, Model FFD "Eucs" haul 34 ton loads of earth and rock overburden at Monroe Mine of Oliver Iron Mining Co. in Minnesota.

LOW COST HAULING ON TOUGH JOBS

Euclids are designed and built to move earth, rock, coal, ore and heavy excavation at the lowest cost. Large capacity, speed on the haul and dump, long life in heavy duty service, these are Euclid features that assure more loads per hour and more profit per load.

They haul big loads! Bottom-Dump Euclids have capacities of 13 to 25 cu. yds., Rear-Dump "Eucs" from 10 to 34 tons.

"Eucs" are fast! Top loaded speed of the Bottom-Dump is 34.4 m.p.h. Rear Dumps travel up to 36.3 m.p.h. with full payloads. They're powered by diesel engines from 125 to 400 h.p.

Whether you have a tough off-the-highway hauling job, or one where conditions are good, Euclids are your best bet for low cost hauling and long, dependable service.

A Bottom-Dump receives a heaped load of about 18 cu. yds. from a Euclid Loader during construction of an access road to a Hydrogen Bomb Plant site in South Carolina. Contractor: R. B. Potashnick.

The EUCLID ROAD MACHINERY Co., CLEVELAND 17, OHIO

EUCLIDS *Move the Earth*

Recent Decisions Affecting Construction

- Supreme Court Rules on Damage Provisions of Taft-Hartley Act

United States Supreme Court upholds judgment against Union in jurisdictional dispute case.

In its first decision interpreting the damage provisions of the Taft-Hartley Act (Section 303) the Supreme Court upheld a judgment of a district court for $750,000 damages in a case brought by the Juneau Spruce Corp. against the International Longshoremen's and Warehousemen's Union. *(20 Labor Cases 80,653)*

The company claimed damages as a result of a jurisdictional dispute between the defendant union and the International Woodworkers of America over the loading of barges in Alaska.

The court made it clear that suits for damages growing out of secondary boycotts and jurisdictional disputes under Section 303 are independent of any administrative finding which NLRB might make under section 8 (b) (4) of the Taft-Hartley Act.

Regarding damage suits resulting from jurisdictional boycotts the court said:—

"The right to sue in the courts is clear, provided the pressure on the employer falls in the prescribed category which, so far as material here, is forcing or requiring him to assign particular work 'to employees in a particular labor organization' rather than to employees 'in another labor organization' or in another 'class.' Here the jurisdictional row was between the outside union and the inside union. The fact that the union of mill employees temporarily acceded to the claim of the outside group did not withdraw the dispute from the category of jurisdictional disputes condemned by Section 303 (a) (4). Petitioners, representing one union and employing outside labor, were trying to get the work which another union, employing mill labor, had. That competition for work at the expense of employers has been condemned by the act. Whether that condemnation was wise or unwise is not our concern. It represents national policy which has both administrative and conventional legal sanctions."

Federal Appellate Court Orders NLRB to Assert Jurisdiction in Construction Case.

Since its inception in 1935 the NLRB has accepted or rejected jurisdiction according to its own discretion. This practice was challenged for the first time this month when the Seventh Circuit Court of Appeals (Chicago) reversed an NLRB decision rejecting a complaint by the Joliet Contractors Association charging the Glaziers Union with a secondary boycott because the latter refused to permit its members to work on preglazed sash. *(20 Labor Cases 80,665)*

The NLRB did not go into the merits of the charge but simply dismissed the case because the commerce involved did not meet its "yardsticks."

Court Criticizes Board

The Appellate Court was quite critical of this approach. The court said, "In our judgment, the reasoning thus employed by the Board ignores the realities of the situation both as to the objective sought to be accomplished by the Union and the result, which it achieved in part only, because it was enjoined by the District Court and which, if the Board's order is permitted to stand, it will be free to pursue until there is no preglazed material used in the construction industry in the Joliet area . . .

"The Board's reasoning disregards the real effect of a secondary boycott on the flow of building materials in interstate commerce. It ignores the fact that the real effect of a secondary boycott in the building and construction industry is the stoppage of the flow of building materials from the manufacturers to the dealers and thence to the contractors. It makes the application of the act turn upon whether the material produced out of state moved directly to the contractor or to the contractor through the material dealer. We are unable to discern how it can be thought that commerce is not substantially 'affected' merely because the contractors purchase only a small proportion of their preglazed material directly from without the state. The local dealers from whom the contractors purchase such material receive it in large volumes, as the record shows, from without the state. It is obvious that the contractors, when proscribed from using such material, will no longer purchase it from the local dealers, and it is equally obvious that the interstate business of the dealers will be impaired to that extent . . .

"We do not think the Board has the unbridled discretion to evaluate such impact by any standard which its fancy may suggest as expedient in a particular case. This yardstick often employed by the Board and approved by the courts does not square with the Board's treatment in the instant case of the contractors separately and independently of each other and of the building and construction industry in the Joliet area purely as a local activity."

NLRB refuses to accept territorial jurisdictional dispute case where parties agreed upon arbitration.

Through a dispute between two A.F. of L. Teamster Locals at Paducah, Ky. as to which union should have jurisdiction over a particular area the NLRB dismissed charges filed by an employer. Under section 8 (b) (4) (D) of the act the employer claimed that Local No. 236 struck to force him to assign work to its members rather than to members of Local 934. The Board pointed out that the employer's agreement with Local 934 contained a clause which read as follows, "When a project is within the territorial jurisdiction of more than one Local Union, the determination of the prorata division of the employees and which Business Representative shall represent the employees shall be made by the Business Representatives of the Local Unions involved." *(NLRB Case No. 9-CD-8)*

This, the Board said, bound the contractor and amounted to an agreement on a method to voluntarily settle the dispute and as such it precluded the Board from hearing and determining the case.

The Board took a like position on jurisdiction over work in the Manhattan Construction Case *(United Brotherhood of Carpenters and Joiners of America Local 943 A.F. of L. and the Manhattan Construction Co. 96 NLRB 160)* when it refused to process charges involving a jurisdictional dispute where the parties had already arrived at a temporary settlement of the issues and had submitted the case to the National Joint Board for the Settlement of Jurisdictional Disputes and agreed to be bound by its decision.

Puts a River in its Place

THE BIG RED CHAMP BUILDS UP THE WALL. The International TD-24 is the work champ of the levee and of the world. It's the most powerful crawler tractor made, and the fastest. Also a champ for "handle-ability," with fingertip control for pivot turns, feathered turns, and turns with power on both tracks. All this means it moves more paydirt per day.

Four International crawlers help build wall to save town and mines from Ohio floods

Three times in five years the Ohio River rampaged through Rosiclare, Illinois. Each time it flooded the great fluorspar mines there, the biggest in the world, America's most important source of this vital fluxing agent used in making steel.

J. D. Barter Construction Co. was given the job of taming the river with a $360,000 flood wall. Four out of the five crawler tractors he put on the project are Internationals, and Sam Barter tells why:

"They really do a job, that's why! And they can take it as well as dish it out. We have one TD-18 with 3,000 hours that's never been touched. A TD-24 with 1,500 hours and not one minute's downtime."

Check with your own friends who own International crawlers. And ask your nearest International Industrial Distributor for details on the whole International line. He's always at your call with expert service both in his shop and at your job site. Get the low-down. You'll go International from then on in!

INTERNATIONAL HARVESTER COMPANY, CHICAGO 1, ILL.

INTERNATIONAL

INTERNATIONAL HARVESTER

POWER THAT PAYS

Couse Appeals for Ample Equipment Parts

- '52 Construction Will Task Machinery, A.G.C. Official Says

» A PAST president of The Associated General Contractors of America spoke for the construction industry last month in voicing the hope that equipment production would be kept as high as possible. Walter L. Couse, president of a large Detroit construction firm and past president of the A.G.C., told the Associated Equipment Distributors convention in Chicago that general contractors would need much new machinery this year and an ample supply of replacement parts.

He based his assertion on the point that "the types of construction which will remain high or increase during 1952 generally are the types in which heavy equipment will be used."

Mr. Couse noted that a tremendous volume of work was completed last year with "little new equipment and not too many repair parts." This year, again, he said, machinery will be used hard and it was impossible to over-emphasize from the point of view of the general contractor "the necessity for an adequate supply of repair parts to keep equipment in operation."

An Office of Price Stabilization regulation on equipment rental rates would be welcomed by contractors, Mr. Couse told the equipment distributors, because it could become the basis for determining equipment costs in contract renegotiations and for securing just payment for use of contractor-owned machinery in defense work. The Department of Defense formula for equipment payment has been consistently opposed by the A.G.C., he said.

NPA Warned Against Equipment Cuts

- Scarce Items May Be Distributed Through Claimant Agencies

» THE REDUCTION in allotments of controlled materials for construction machinery and repair parts will aggravate an already serious shortage of those items, equipment distributors told the National Production Authority last month.

The warning came when the Construction Machinery Distributors Industry Advisory Committee was informed that tentative second quarter allotments would be 10% to 20% below those of the first quarter.

Members of the industry advisory committee pointed out that construction machinery is being used longer hours than is normal now. The consequent need for more repair parts is further provoked by military orders for replacements. Unless the supply of repair parts improves, the committee cautioned, machinery breakdowns will jeopardize the completion of necessary defense projects.

The agency recognized that such items as tractors, asphalt plants, cranes and shovels and tandem rollers are in short supply and suggested that future production of scarce items may be allotted to claimant agencies for distribution.

NPA proposed an amendment to its Order M-43 which would classify all items as critical or non-critical. The DO system of ratings would apply in the latter classification, but critical equipment would be allocated on the basis of claimant agency requirements. The agencies would file a monthly report of orders for critical equipment which it had screened and NPA would approve or disapprove of the list, wholly or in part. Manufacturers and customers of the approved items would be informed then that a portion of production was to be set aside to fill those orders.

OPS Machinery Order Seen

The Office of Price Stabilization is working on tailored pricing regulations to cover construction machinery sales, service and rentals, which may be issued this month.

Presently, sales of used construction machinery are covered by Ceiling Price Regulation 105 and rentals are covered by the service regulation, CPR 34.

A subcommittee of the Construction Machinery Sales, Service and Rental Industry Advisory Committee met Jan. 14 with OPS officials, when it was proposed to develop a "tailored" regulation covering sales of used construction equipment along the general lines of CPR 105, but modified to conform more nearly to the business practices and methods prevailing in the industry. It also was proposed to develop a dollars-and-cents regulation covering rentals.

The first meeting of the full advisory committee was held in December when CPR 105 was issued. At that meeting, members said the spread between the ceilings for "rebuilt and guaranteed" equipment and "as is" equipment as applied to used construction machinery was not sufficient, and that the ceilings on the "as is" equipment would have the effect of putting a floor as well as a ceiling on prices. They said the ceilings for rebuilt and guaranteed equipment were too low.

It was suggested that current freight costs be added to published list prices for new equipment before applying the percentage rates for determining ceilings for used equipment.

Committee members asserted that, generally speaking, there was an ample supply of new equipment on the market with the result that there is little, if any, need for controlling prices on "as is" equipment.

They argued that the 90-day guarantee for rebuilt and guaranteed equipment provided in CPR 105 was too long, and that 30 days was the period generally used in construction.

Committeemen also stated that rental charges of construction equipment are generally too low in relationship to the cost of new equipment and suggested an upward adjustment.

Equipment Prices Discussed

Ceiling Price Regulation 30, covering machinery and equipment, was discussed for the first time last month with OPS officials by the Construction Machinery Manufacturers Industry Advisory Committee.

OPS officials reported the committee thought the industry, in general, was "pricing satisfactorily" under the regulation, but that some companies were experiencing difficulties on certain items, and suggested consideration be given to possible increases in steel costs.

The committee also recommended that individual companies be given the option of pricing either under CPR 30 or the General Ceiling Price Regulation. The possibility of a "tailored" regulation for this industry was not reported.

GULF PRODUCTS *and* FINE SERVICE

keep equipment rolling on Greenville Airport Project

Peden Construction Company, Inc. recently completed this improvement project at the Municipal Airport, Greenville, South Carolina. The job involved about 750,000 cubic yards of excavation.

"SMOOTH, dependable equipment performance is one of the first requirements for a smooth-running job," says H. L. Peden, President of Peden Construction Company, Inc. "And we get that kind of equipment performance with the help of Gulf products and service. Our maintenance costs are exceptionally low, too."

Gulf Quality Products and That Good Gulf Service team up to help many leading contractors do a faster, more profitable job.

Gulf Lubricants provide better protection against wear, and contribute to extra hours of trouble-free operation.

Gulf Gasolines and Diesel Fuels are clean burning, have low carbon content, and contribute to maximum engine power and efficiency.

Gulf Quality Products and Fine Service are quickly available to you through more than 1400 warehouses in 31 states from Maine to New Mexico.

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GULF

Death Takes Anton E. Horst 12th President of the A.G.C.

- Headed General Contractors Code Authority
- Firm Was Founder Member of Association

» ANTON E. HORST, 12th president of The Associated General Contractors of America in 1930, died at the home of his daughter, Mrs. Virginia A. Gesin, in Verona, N. J., on January 5 at the age of 66.

Services were held in Philadelphia on Jan. 8, at the funeral parlors of R. R. Bringhurst, and burial was in Rock Island, Ill.

The national association was officially represented at the services by President Glen W. Maxon, Dayton; Vice President A. S. Horner, Denver; and Managing Director H. E. Foreman, Washington, D. C.

Mr. Foreman, in his telegram notifying members of the A.G.C. of Mr. Horst's death, stated: "A. E. Horst . . . whose firm was one of the founders of the association . . . was a staunch supporter of A.G.C. work, especially during the critical years in the early thirties. The association and the industry have suffered a great loss."

The construction industry is indebted to Mr. Horst for his leadership as chairman of the General Contractors Divisional Code Authority in 1934-35, and when construction by force account of the Works Progress Administration threatened the very existence of the general contract method.

At his death, he was president of the Henry W. Horst Co., A.G.C., Philadelphia, established in 1892 by his father, and had engaged in building, highway, heavy and railroad construction. His home was at Medford Lakes, N. J.

Mr. Horst was born in St. Louis, Mo., in 1885. In 1892 he moved with his family to Rock Island, Ill., at which time and place the Horst firm was established. Much of his preparatory education was obtained at night in schools in Illinois and Iowa.

By 1907 he had acquired sufficient schooling to enter the University of Illinois, and was graduated in 1911 with a B.S. degree in mechanical engineering.

He then joined his father's firm and in 1914, when the company was incorporated under its present name, became secretary, treasurer and general manager.

The Henry W. Horst Co., which will continue until its current contracts are completed, gained a reputation for its speed and efficiency, the variety of projects which it could undertake, and its willingness to try new techniques.

The firm in 1949-50 built the Walnut Lane bridge in Philadelphia, first prestressed concrete bridge to be built in the United States, and the largest span of its kind in the world. (THE CONSTRUCTOR, December 1949.)

The Horst firm brought in European experts to assist in the work and formed the first "clinic" operation in the construction industry. Tests on the structure stirred world wide interest among students, men engaged in engineering research and contractors. Mr. Horst termed the project "one of the most significant experiments ever conducted in this country," and growing interest in prestressed concrete has proved the accuracy of his statement.

Using interesting and effective managerial policies and job methods the Henry W. Horst Co., which until recently had maintained offices in both Rock Island, Ill., and Philadelphia, completed the 8th street section of the Ridge Ave. subway in Philadelphia. The $2.6 million contract, awarded in 1929, called for the construction of 1864 feet of track which runs beneath the 8th street station, and presented many difficulties in underpinning the station structure.

Mr. Horst's activities in both national and local organizations of the A.G.C. and on behalf of the construction industry in general were extensive.

Following passage of the National Industrial Recovery Act in 1933, Mr. Horst was appointed chairman of the General Contractors Divisional Code Authority and was a member of the Construction Code Authority.

From the beginning of the A.G.C. in 1918 of which his firm was a founder member, he was a forceful advocate of construction industry safety.

In 1930 he donated the A. E. Horst Cup which was presented annually to the A.G.C. member having the lowest accident record.

At various times he was chairman of national A.G.C. committees on Federal Relations, Finance, Adjustment, Inland Waterways and Affiliated Bureaus, and was chairman of the former Engineering and Public Works Divisions.

For many years he was a member of the association's Executive Committee, and at the time of his death he was a member of the Advisory Board.

He was president of the A.G.C. of Illinois for two terms, and regional vice president of the former Pennsylvania Chapter.

Besides his active affiliation with the association, he was a member of the American Society of Mechanical Engineers, American Concrete Institute, Chamber of Commerce, University Club, Union League and Hamilton Clubs of Chicago, Penn Athletic Club of Philadelphia, the Rotary International, the Consulting Constructors' Council of America and was president of the Alumni Board, Tau Chapter, of Delta Phi fraternity. Also, he was a member of the board of directors of the Builders and Manufacturers Mutual Casualty Co. of Chicago, and of the American Road Builders Association.

Very active in church work, he was connected with the Evangelical Lutheran, Missouri Synod, and participated in work of the Young Men's Christian Association.

Besides his daughter, Mrs. Virginia A. Gesin, he is survived by his wife, Dora A. Horst, and three brothers and sisters.

Industry, Government Leaders To Address A.G.C. Convention

- 1952 Construction Problems to Be Explored
- Full Program of Entertainment Planned

» THE PROBLEMS of sustaining a high volume of defense and essential civilian construction within the framework of an accelerating mobilization program will be explored by representatives of the nation's leading general contractors at The 33rd Annual Convention of the Associated General Contractors of America, Feb. 25-28 in Detroit.

General convention sessions and meetings of the association's Building, Highway and Heavy-Railroad Divisions will be addressed by government and industry leaders on topics relating to construction during 1952.

The convention is expected to attract about 1,000 delegates from among the A.G.C.'s more than 6,100 members who annually perform about 80% of America's contract construction. Headquarters will be at the Statler Hotel.

This year's convention hosts, the Michigan chapters of the association, have planned a full program of entertainment with special emphasis on events for the ladies.

Convention Speakers

Convention speakers will include D. A. Huley, Dallas, president of the U. S. Chamber of Commerce; Rear Admiral J. F. Jelley, chief of the Navy's Bureau of Yards and Docks, Washington, D. C.; Lt. General Lewis A. Pick, chief of Army Engineers, Washington, D. C.; Frank R. Creedon, assistant administrator for Facilities and Construction and John L. Haynes, director of the Building Materials Division, National Production Authority, Washington, D. C.; Thomas G. Letchworth, chief of the Building Materials Branch, Office of Price Stabilization, Washington, D. C.; Richard J. Gray, president of Building and Construction Trades Department, American Federation of Labor, Washington, D. C.; B. D. Tallamy, president of the American Association of State Highway Officials and superintendent of Public Works, New York State Department of Public Works, Albany; Thomas K. Jordan, director of the Wisconsin State Aeronautics Commission, Madison; Riggs Sheppard, assistant administrator of the Rural Electrification Administration, Washington, D. C.; Lawrence A. Rubin, executive director of the Michigan Good Roads Federation, Lansing; and A. C. Clark, deputy commissioner for Construction and Maintenance, Bureau of Public Roads, Washington, D. C.

The first general convention session opens on Monday afternoon. During the preceding three days many committee meetings will be held, including the meeting of the Secretaries' and Managers' Council which is composed of the executives of the A.G.C.'s 118 chapters.

The Building, Highway and Heavy-Railroad Divisions will meet on Tuesday and Wednesday afternoons following each morning's general session. The convention closes on Thursday with a final general session, the installation of 1952 officers and the annual banquet and dance.

Entertainment

Michigan University's Men's Glee Club and Symphony Band will perform on Sunday evening after which there will be a supper. On Tuesday there will be a reception and cocktails followed by a dinner dance and entertainment.

Afternoon events planned for the ladies include luncheons at Dearborn Inn and the Grosse Pointe Yacht Club, and tours of the Edison Institute and Greenfield Village.

The Convention Committee composed of members of the Joint Michigan Chapters of the A.G.C., includes Leo P. Richardson, general chairman, and Harry L. Conrad and Leet M. Denton, co-chairmen. Other members are Past National President Walter L. Couse, John Cooley, Karl Foster, Paul Greene and Dan W. Kimball. Chairmen of special committees are: G. K. Chapman, Registration; John Cooley, Finances; Stephen D. Butts, Publicity; C. R. Slimmon, Housing; Jack Hohnke, Hospitality and Transportation; Signor Peterson, Entertainment; and Mrs. Walter L. Couse, Ladies Activities.

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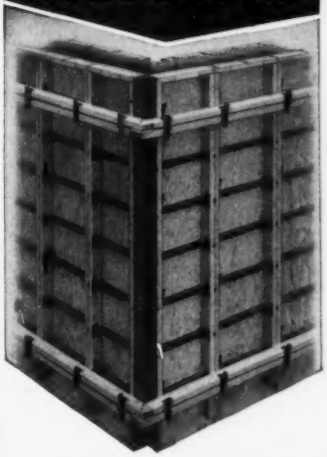

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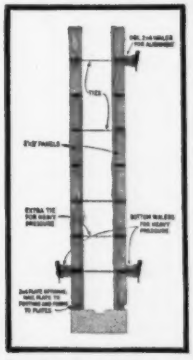

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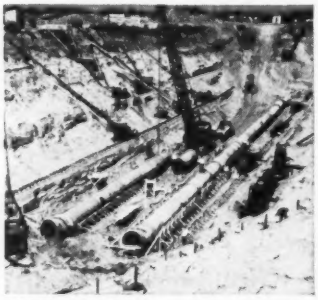
HOW TO HANDLE
WET JOBS

#2 of a series

CHAIN OF
ROCKS CANAL

Contractor: River Construction Corp.

START: LOWERING WATER to prepare for relocation of existing 54 in. water line below future canal bottom. (Upper Mississippi River, Ill.)



10 WEEKS LATER: Pipe being laid 38 ft. below original water level, while 3-stage Griffin Wellpoint system maintains dry subgrade.

SURPRISING, ISN'T IT?—this high-speed progress compared to yesteryear's outmoded operations—cofferdams . . . months' delays . . . mountainous costs. Surprising, too, how *much* of wellpoint progress has been pioneered by Griffin through almost 2 decades. For "quick dry" . . . specify . . . Griffin.

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WELLPOINT CORP.

881 East 141st Street, New York 54, N. Y.
Hammond, Ind. Jacksonville, Fla.

In Canada: Construction Equipment Co., Ltd.
Toronto Montreal Halifax

A.G.C. Announces Annual Election Results

» THE RESULTS of the annual election of officers and directors of The Associated General Contractors of America have been announced by H. E. Foreman, managing director.

The president and vice president of the association are elected to serve for one year. Directors in 12 districts covering the United States and including Alaska are elected to serve for three years. Officers and directors will be installed at the close of the A.G.C.'s 33rd annual convention to be held in Detroit, Feb. 25-28.

New officers, and directors in states where elections were held, are:

President

A. S. Horner
A. S. Horner Construction Co.
Denver, Colorado

Vice President

C. P. Street
McDevitt & Street Co.
Charlotte, North Carolina

District Directors

DISTRICT 1

Idaho
Paul Vernon (Heavy-R.R.)
Vernon Bros. Co.
Boise

DISTRICT 2

Arizona
Edward O. Earl (Highway)
San Xavier Rock & Sand Co.
Tucson

California
Charles L. Harney (Heavy-R.R.)
Chas. L. Harney Inc.
San Francisco

DISTRICT 3

Colorado
James B. Kenney (Highway)
James B. Kenney Inc.
Denver

Utah
J. P. Gibbons (Heavy-R.R.)
Gibbons & Reed Co.
Salt Lake City

DISTRICT 4

Oklahoma
W. D. Amis (Highway)
Amis Construction Co.
Oklahoma City

Texas
F. S. Oldt (Heavy-R.R.)
F. S. Oldt Co.
Dallas
Fred Fisher (Building)
Fisher Construction Co.
Houston

DISTRICT 6

Iowa
George C. Koss (Highway)
Koss Construction Co.
Des Moines

DISTRICT 7

Illinois
Percy F. Loiselle (Highway)
Triangle Construction Co.
Kankakee
A. L. Jackson (Building)
A. L. Jackson Co.
Chicago

DISTRICT 8

Michigan
Cameron L. Davis (Building)
Miller-Davis Co.
Kalamazoo
W. J. Storen, Jr. (Heavy-R.R.)
W. J. Storen Co.
Detroit

Ohio
Fred I. Rowe (Heavy-R.R.)
W. L. Johnson Construction Co. & Assos.

DISTRICT 9

Alabama
John R. Lathram (Highway)
Sullivan, Long & Haggerty
Bessemer

DISTRICT 10

South Carolina
F. L. Shackelford (Building)
Potter-Shackelford Construction Co., Inc.
Greenville

Virginia
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replacing

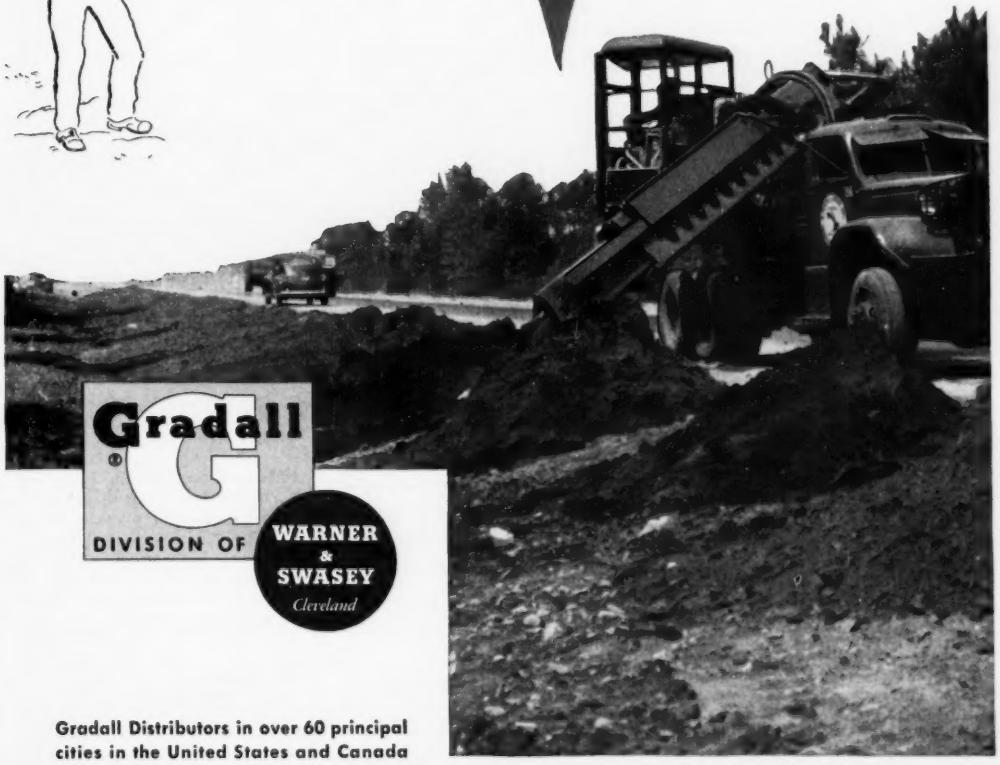
40 hand laborers

● Despite many modern technological developments, a certain amount of clean-up hand labor has remained a necessity in practically all construction work.

But now the Gradall, with its extreme versatility and exacting hydraulic tool control, eliminates much of this clean-up hand labor. Contracts are completed faster, costs are cut, and manpower conserved.

Reports from the field often show one Gradall replacing 40 men . . . *and doing the job better, faster, for less.*

Why not investigate all of the applications of this one versatile machine in your work? Your nearest Gradall Distributor will be glad to demonstrate its many profit possibilities with a field demonstration.



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Sufficiency Ratings Gain Popular Favor

• BPR Relies on System in Judging Applications for Steel

» THE SUFFICIENCY rating system for highways is now being used by the Bureau of Public Roads to help substantiate quarterly requests to the Defense Production Administration for vitally needed highway steel.

A sufficiency rating is a numerical value applied to a specific section of road, after an engineering analysis of its structural condition, safety features and ability to give service. A perfect road would receive a maximum rating of 100; a road deficient in any of the modern engineering standards would receive a relatively lower rating.

The bureau is screening project applications by the fairly new standard and asking DPA for steel to correct the deficiencies showing up on roads found most obsolete by analysis. "We find most of the answers by using the technique," BPR officials say, in determining the relative needs of projects for which steel is requested.

Rating Whole Primary System

The bureau, which has been assigning ratings to the interstate highways, expects to have the whole primary system analyzed by next year. A BPR highway planning representative, Karl Moskowitz, developed the idea. The Arizona highway commission adopted it in 1946.

Since then, 20 other states have adopted the system, with modifications to meet local conditions (Minnesota, for example, includes the ability of a road to withstand spring "break-up" as a judging factor). The American Association of State Highway Officials embraced the system as a handy device for arriving at state highway needs. It became the basis for estimates submitted at hearings on federal-aid highway bills in 1948 and 1950. Lately, the National Highway Users Conference has accepted the method as the best way of expressing highway planning programs to the general public.

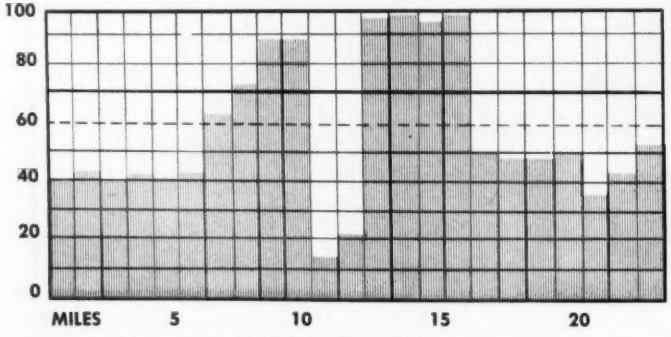
New Adaptations Studied

At the Highway Research Board's annual meeting in Washington, D. C., last month, a symposium of 11 papers on sufficiency ratings was held. Officials from state highway departments, the BPR, the Automotive Safety Foundation and the Highway Users Conference discussed new adaptations of the system.

O. L. Kipp, chief engineer, Minnesota Department of Highways, called the sufficiency rating procedures "the most satisfactory, realistic and factual means of evaluating highway needs and programming improvements." He was impressed, also, with the effect of such analysis of the highway system on public opinion. Where such unbiased appraisal is submitted to the public, he said, political and community pressure is held to a minimum. Legislators, also, are given a clear idea of where funds are needed.

Roy E. Jorgensen, now of the Highway Users Conference, described the use of the ratings in long-range planning. He introduced graphs illustrating the analysis of a particular road (see below) and of a particular highway system. They revealed where and how much construction would be required to bring those roads up to tolerable standards.

The apparent approval that the sufficiency rating system is gaining, as well as its timely acceptance by the Bureau of Public Roads for steel distribution purposes, encourages its proponents. Increasing use of the technique is being made by highway user organizations in public relations programs for adequate roads.



Here is a 23-mi. section of highway, analyzed mile-by-mile and given sufficiency ratings. The first mile has a rating of 40 points. Two very inadequate miles in the center have 12 and 20 points. Other sections are near perfect. It is obvious at a glance which stretches need reconstruction.

Across the graph at 70 points is a solid line. It represents an arbitrarily set standard. Sections of road below that the state considers inadequate. Any other standard may be set, if financial limitations force a compromise, as indicated by the dotted line, and raised as circumstances permit.

MacDonald Hits Steel Cuts

In spite of assurances by Secretary of Commerce Charles Sawyer that the over-all distribution of scarce steel for the second quarter of 1952 was just as fair as possible, Thomas H. MacDonald, commissioner of the Bureau of Public Roads, gave a different version. The nation's defense roads are suffering, the commissioner declared, from repeated cutbacks in steel allocations and vitally necessary construction will have to be delayed or postponed. Although, MacDonald said, "I have worn my trousers thin begging more steel for highways," the second quarter allocation, although raised, was still only 30% of the structural steel requested.

* * *

Increased construction costs, costlier right-of-way and litigation are held responsible for financial difficulties on the Oklahoma Turnpike. $5 million more in bond sales is needed before final contracts can be let. All but one of the contracts let thus far have been above estimate.

* * *

Toll receipts on the Pennsylvania Turnpike jumped almost 55% last year over 1950 and totalled $14 million. Seven and a half million vehicles used the superhighway. Heaviest month was August when 934,000 motorists paid $1.5 million in tolls.

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they Go Together

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CONTROLLED TRACTION—product of exclusive All-Wheel Drive and All-Wheel Steer—makes it easy for an A-W Power Grader to deepen ditches and widen roads. The powerful front drivers ride the shoulder; the rear drivers follow the ditch line, and a beautiful "job of work" is turned out. Yes, All-Wheel Drive and All-Wheel Steer *go together . . . work together* on every job. Why be satisfied with less in your next grader?

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Cement for the new Oberaar dam in Switzerland takes to the air to cross deep valleys and high hills between the railroad unloading station and the dam site. An aerial cableway carries a continuous line of big buckets of cement 3½ mi.—as the crow flies—at a steady speed—about 8 mi. per hr. The airborne cement brushes the clouds at 9,000 ft. and drops down to the construction site at 7,870 ft. altitude. About 380 tons a day take the unique route.

3 Swinging along above the clouds, outgoing and returning buckets meet

1 Cement train from factory is unloaded at cableway station

4 From 9,000 ft. up, a Swiss lake below looks small

2 A worker launches container on its aerial route

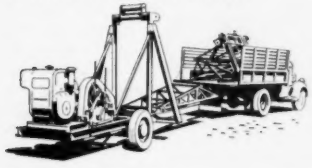
5 Dipping down to destination—batching plant near dam

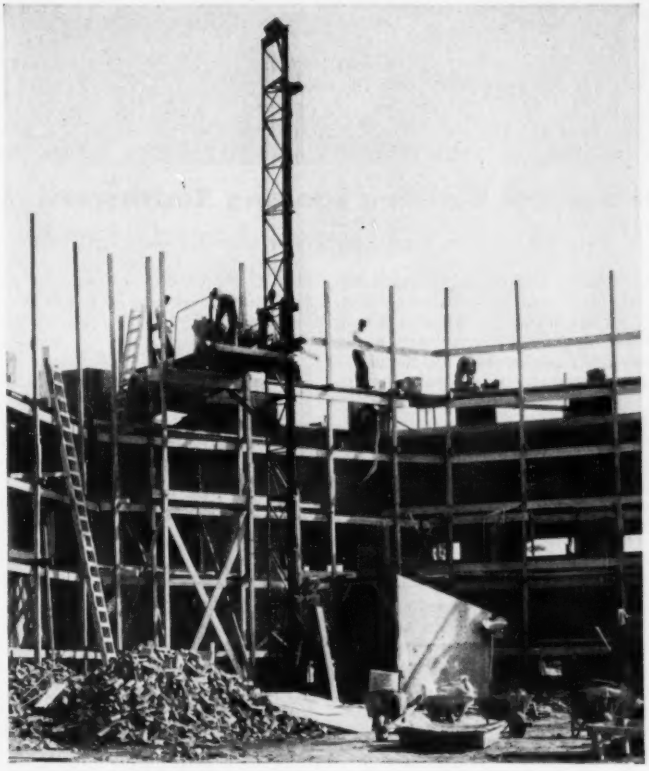
30 trips an hour

Two FULL concrete buggies up, two empties down, in two minutes? Absolutely—if you can wheel 'em on and off fast enough. And your American Portable Material Elevator will go at that speed as long as you need it.

This is one elevator that doesn't need a lot of tuning and tinkering to get it going. You take it off the truck at 8 a.m., assemble the tower on the ground, raise it by its own hoist power, and start moving material by 11 o'clock. Everything is perfectly aligned, smooth running, and safe.

The PME carries 2500 lb. loads, 90 feet per minute. Stands 46′ to 96′ high. Switches from big 6′ x 6′ platform to ½ yard automatic-dumping concrete bucket in minutes. Other extras include swing boom attachment, safety device, and transport wheels. To rent or buy, see your American Hoist distributor.





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Airlawn Industrial District, one of the new Dallas developments for industrialists moving South, has building restrictions that keep it tidy and quiet.

Industrial Building Looking Southward

• Migration to Dixie Boosts New Plant Construction There

» WHEN the Chance Vought Aircraft firm "went South" after the war, it was not just for the winter. It took 1,006 freight cars for the moving job, and 1,275 employees made the cross-country transfer from Connecticut to Texas. The new buildings awaiting them were a large construction job for a contractor, James Stewart & Co., A.G.C., just as are hundreds of other new southern homes for hundreds of other northern industrialists.

Many Industries on the Move

The lure of the Southland—pleasant climate, cheap land and abundant labor—is turning the stream of industrial expansion. New plants are being constructed from Texas to Florida to turn out everything from neon signs to men's slacks. General contractors are enjoying a building era that is expected to rejuvenate many communities with new life.

To the expanded iron and steel facilities around Birmingham, Ala., automobile assembly plants at Atlanta, Ga., furniture factories of High Point, N. C., and textile industries of the central Carolinas are being added copper tubing plants, newsprint mills, carpet factories, and other such big commercial names as Coca Cola, Eastman Kodak, United Motor and Firestone.

Statistics from a number of sources testify to rapid but steady growth in Dixie. Arkansas, Mississippi, Georgia, South Carolina and Kentucky were either over, or almost over, 300% of their 1939 production volume by 1947. Southwestern states—Texas and New Mexico—did as well (511% in the case of the latter).

Since 1947, the trend has been accentuated. Mississippi, Alabama, Tennessee and Kentucky have received enough of the government's certificates of necessity to almost double their 1947 share of the nation's industries. In Louisiana, Texas, Oklahoma and Arkansas, new construction under the same impetus is even greater. That section had less than 4% of the country's factories, but will have over 18% when construction applied for is in place.

In 1939, the East South Central states got 5.3% of the nation's new construction; during the third quarter of 1951, they got 7%. The West South Central states got 11% compared to 8.5% in 1939. Increases top those in other areas.

Behind this movement—besides the area's natural advantages—are such promoters as the Southern Railway, the Missouri-Kansas-Texas Railroad, local chambers of commerce, industrial councils and realtors.

Huge Plants Being Built

The Southern Railway saw 142 new plants and 107 plant additions along its route in one year during the current boom. Some were large facilities, such as Chemstrand Corporation's new $60 million mill near Decatur, Ala., and the huge General Electric Appliance Park outside Louisville, Ky. The first unit of the G.E. plant has been built for $14 million, but future plans call for a $225 million outlay in the next five or six years. The Kaiser Aluminum Corporation's New Orleans plant (estimated cost—$150 million) is another example.

Local industry promotion councils and foundations are more active than ever. They buy and develop land for occupancy, offer subsidies to prospective buyers, make loans, or even buy stock in the company (one Oklahoma town bought $250,000 worth to get a new plant).

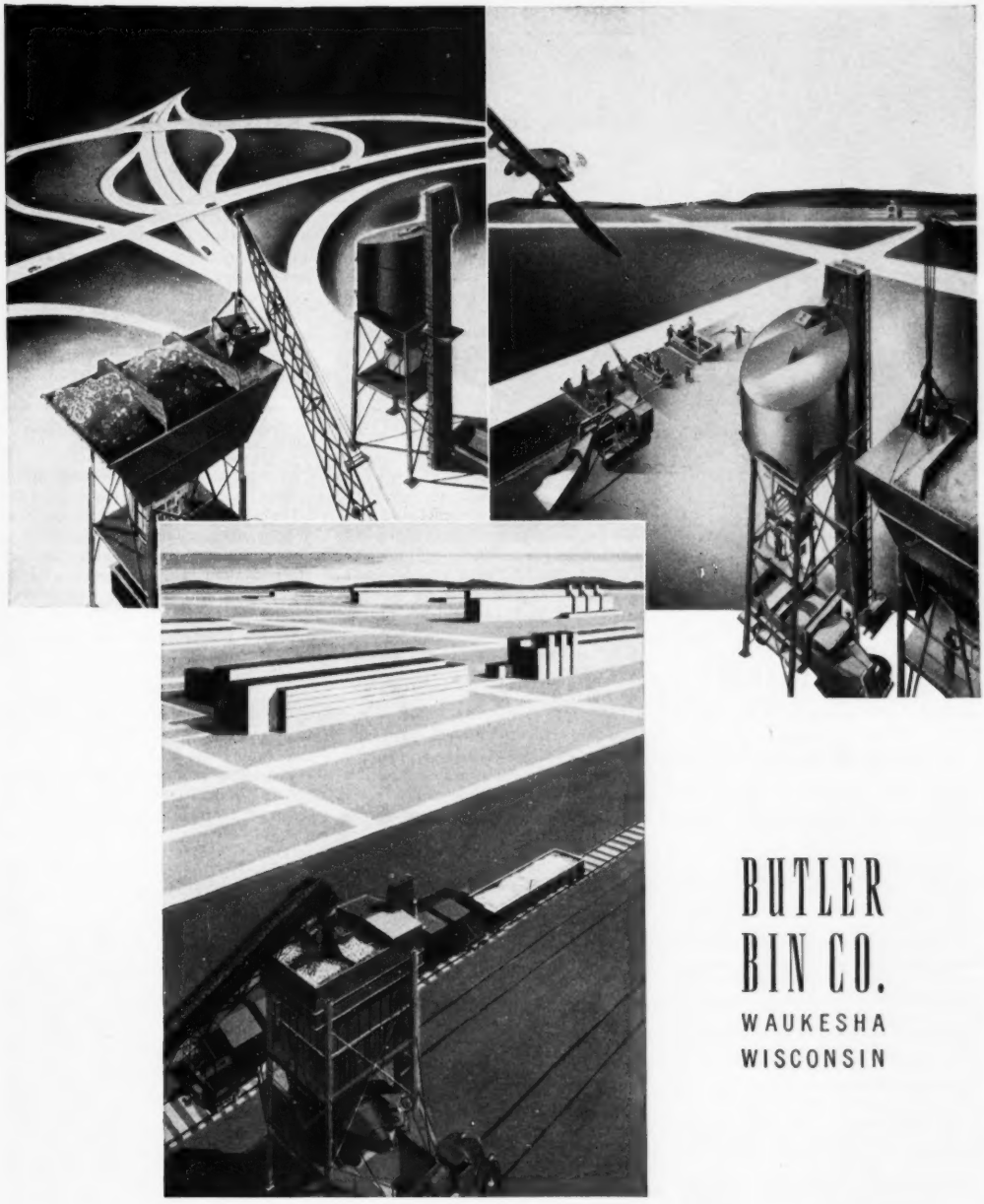
Far-sighted realtors have come up with another device. They are developing complete industrial communities with the promise of new streets and rail facilities. Such a venture is the Trinity Industrial Development outside Dallas, Tex. Called the largest such enterprise in the U. S. under single ownership, it covers 1,150 acres and has almost 100 new plants, including a 200,000-sq. ft. International Harvester parts depot. All buildings located on the 9 mi. of paved streets must be of permanent fireproof construction. Noise and smoke are banned.

Industrial Developments Successful

Two other projects, both outside Dallas and both sponsored by the Missouri-Kansas-Texas Railroad, follow the same lines. Thirty-six industries have built $20 million in new plants in the Airlawn Industrial District, just completed. Another, the Farmers Branch Industrial District, is being opened and will provide 350 acres for light and heavy industry. As in the other restricted developments, the new plants will be ultramodern, single story structures of brick and steel with air conditioning and fluorescent lighting. Uniform set-back from streets will be maintained and rail and truck entrances must be at the side or rear. The railroad pushes new sidings up behind the plants in a preplanned pattern and highway transportation is adjacent.

Already Westinghouse Lamp Division and the Thompson Can Co. have erected facilities in the development and a 30-acre shopping area is being planned.

March CONSTRUCTOR: *New England governors move to retain their industries by offering new inducements.*



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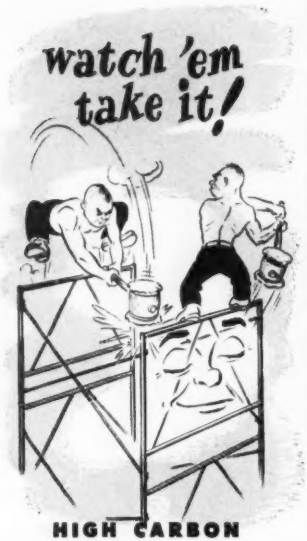

HIGH CARBON STEEL TUBING DOES THE TRICK!

Safway Steel Scaffolds ENGINEERED TO LAST!

Portable steel scaffolding can offer real advantages—*as long as the equipment stands up.* That's why Safway Scaffolding is the No. 1 choice!

Safway interchangeable parts can *take it*... through countless jobs, and seasons, and years . . . without requiring repairs or replacement. Here are specific reasons why:

High Carbon Structural Steel Tubing easily supports heavy loads and strains.

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Master Welders . . . exclusively . . . produce safe, strong, lifetime welds on Safway parts.

Rust Inhibiting Treatment maintains precision fit of component parts to permit re-use indefinitely.

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Tubular Steel Scaffolding and Equipment

Design to Fit Market, Lumberman Urges

- Knowledge of Available Materials Will Save Time and Money

» TAILORING design and timber specifications to fit available materials will save builders disappointment and money, Charles F. Craig, spokesman for the West Coast Lumbermen's Association, declares.

Appealing for common-sense appraisal of the market, Mr. Craig lists schedules that can't be easily met and will cost the builder more than he realizes. Among them are: odd sizes, non-standard surfacing, free-of-boxed-heart stringers and extremely long lengths.

Slight changes in design to use the material available constitute savings in time and money, the lumberman points out, and to realize those savings, "the designer should limit his design to standard sizes and mill lengths where possible." The basic price of odd sizes is based on the mill length required to furnish the length ordered.

Use Lower Grades, Too

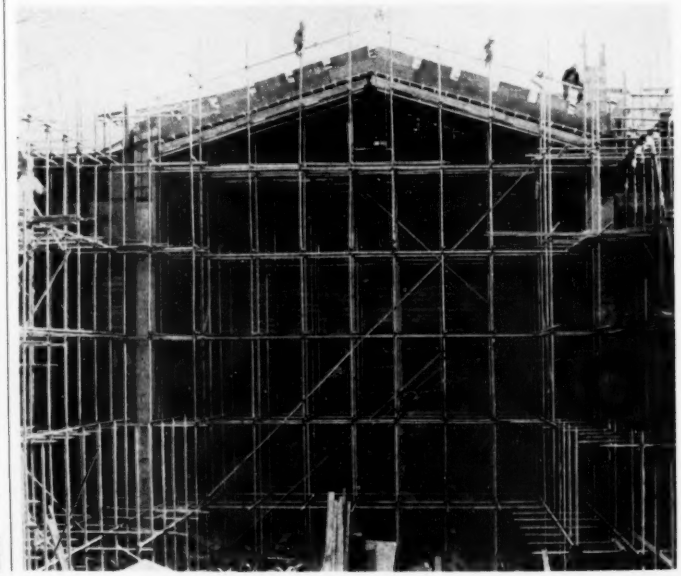
"All too frequently," Mr. Craig says, "specifications call for high-stress grade, select structural timber for non-load-bearing members such as filler blocks, bridging and wheel guards when a lower, more obtainable, less expensive grade will suffice. Keep in mind the use of the lower grades when designing for both economy and availability."

He also urges builders to permit alternate bids and thus allow suppliers to offer available materials that will often be acceptable. The time and cost of re-advertising are often needless.

Trend to Steel Scaffolding

A trend to sectional steel scaffolding is noted on a number of projects where adjustable supports are required. Where once timbers were used exclusively, some contractors are finding steel equipment more economical in time, labor and materials. Manufacturers are quick to point out that sectional steel scaffolding eliminates even the need for bracing timbers and can be easily erected and dismantled. They cite the safe working load ranges up to 366 pounds per sq. ft. on frames that are not subject to the warping that timber is.

Below, a picture of one manufacturer's product used to shore the reinforced roof of an auditorium.



Building Materials Pile High

The supply of building materials is outrunning demand and dealers foresee some "super-pileups" in many new materials if the housing cutback is maintained. Those opinions were expressed by producers and dealers interviewed by *The Wall Street Journal* and reported in its Jan. 14 issue.

Cement, brick, lumber and hardware men all reported that supplies on hand are heavier than last year and demand is lighter. The Defense Production Administration's allotment of critical material for 1952 housing, slashed from 850,000 units to 600,000, "has left mouths agape among building materials men from Boston to San Francisco," the *Journal* reports.

Producers say that 1951 was a record production year for lumber, bricks and cement and the increased supplies are provoking some price drops. By January 8, the wholesale building materials index had dropped from the 228 of last February to 224.

N.Y.C. Builders Request Steel

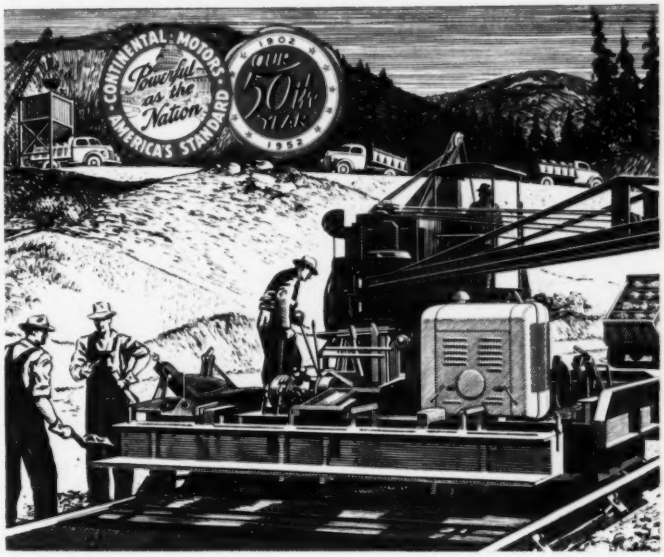
Representatives from New York City's Building Trades Council and Building Trades Employers Association told a special meeting of the New York Congressional delegation and National Production Authority officials last month that commercial builders must get more steel or go out of business in N.Y.C. Citing the unemployment problem among construction workers there, they asked that individual attention be given to areas where such problems existed.

The new head of NPA, Henry Fowler, replied that plans are in the making to consider commercial projects on their individual merits as soon as steel becomes more plentiful, even if such building is generally cut.

Accounting Forms Available

Three owner-contractor accounting forms developed by the American Institute of Architects now are available through the A.G.C. They are Change Order (A.I.A. Form 701), Request for Partial Payment (A.I.A. Form 702), and Certificate for Payment (A.I.A. Form 703).

Standard forms covering important contracting procedures prepared by the A.G.C. and cooperating bodies are listed on page 66, with order blank.



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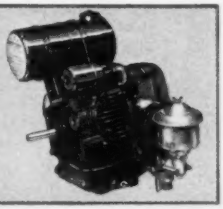
DEPENDABLE RED SEAL POWER

Continental Red Seal power is saving money for owners of specialized equipment used at every stage of highway construction, maintenance and repair, from preliminaries on through final grading.

You find Red Seals of varying sizes and specifications in more and more leading makes of shovels, cranes, conveyors, draglines, winches and pumps at the pit; in trucks hauling materials to the job; in mixers, trenchers, earth-movers, spreaders, rollers, and other machines at the job site. They deliver their full work quota at lower cost, with less down time, because each is engineered expressly for its job—built to do one thing and do it well.

MODEL AA7 . . . In addition to 4- and 6-cylinder liquid-cooled engines from 13 to 188 h.p., Continental builds 10 four-cycle air-cooled models for a wide range of industrial uses requiring from 1½ to 2½ h.p. They are backed by service and parts in every community. For information on this line, please address Air-Cooled Engine Division, 12800 Kercheval Avenue, Detroit 14, Michigan.



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Before you buy any Trencher
Check PARSONS*
* Your Parsons Distributor is interested in helping you increase your trenching efficiency, production and profits. He has latest facts on all Trenchliners in the Parsons heavy-duty line . . . information that will provide the lowest cost answer for your work. Before you buy any trencher, be sure to check all sizes and types of Parsons Trenchliners . . . wheel and ladder-types, full crawler mounted . . . also, ask about mobile, utility-size Trenchliner on rubber tires.
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PARSONS
HEAVY DUTY
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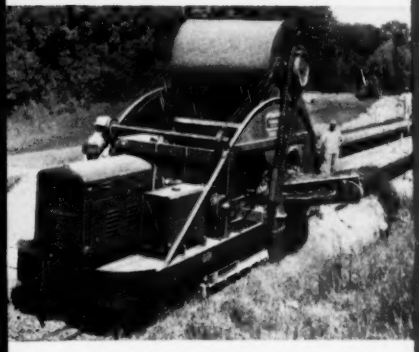
PRODUCT
PARSONS Trenchliners*
PARSONS COMPANY, NEWTON, IOWA (Founded as Jahring Tool Co.)

PARSONS BIG-CAPACITY 310 Trenchliner digs 1½ to 4½′ wide at 17′ depth . . . and up to 6′ wide at 11′ depth . . . has 45 digging feeds, 8″ to 15′-6″ per min.



250 TRENCHLINER produces clean-cut, smooth-walled trenches 16 to 42″ wide, and up to 12′-6″ deep . . . 30 digging feeds from 3.8″ to 9′-9″ per minute.

PARSONS 221 Trenchliner digs 16″ to 36″ wide, to 8′-6″ deep. 30 digging feeds, 6.5″ to 13′-10″ per min., assure top output at any depth, width, in all soils.

MORE WORK-TIME with Koehring Dumptor®

With more than a ton of strength for every ton of payload capacity, Koehring 6-yard Dumptor withstands the severest loading shocks. Sides, ends and triple-strength bottom are heavily reinforced. 1-second gravity dump eliminates need for body hoist, saves expensive hoist maintenance. Heavy-duty, constant-mesh transmission provides same travel speeds forward and reverse for fast no-turn shuttle hauling. Also check Koehring ½ to 2½-yard excavators (¾-yard 304 shown above), and 7¾ to 79½-ton cranes.

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BIG PAYLOAD Clamshells

. . . Smooth inside and out, Johnson all-welded Clamshells dig, dump with less resistance. Manganese cutting edge, welded to heavy lips, toughens with use, assures big payload performance. In 10 sizes . . . from ⅜ to 3 yards.

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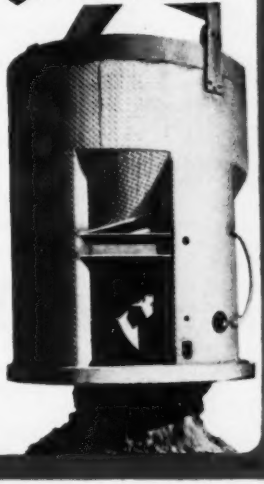
LO-SLUMP Concrete Buckets

. . . 2 to 8-yd. sizes, with built-in vibrator, handle the stickiest concrete . . . have large controlled double-clam discharge gates, operated manually or by compressed air.



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dream **BIG** ***dreams!***

Mainly, the big dreams . . . the revolutionary dreams are the ones that have made our country great and powerful!

America's engineers have dreamt such dreams . . . of building the world's highest buildings, the longest bridges, the finest highways.

And here, in the shops of American Bridge, we have helped them bring their dreams to life. With them, we have built the Empire State Building, the San Francisco-Oakland Bay Bridge and many other structures that stand as the world's greatest or finest.

We who know them so intimately, and can appreciate their work and their problems so fully, pay tribute to America's engineers and pledge to them our fullest cooperation.

This year, with the nation's rearmament as our most urgent task, their dreams and their efforts are vital to our survival. We pray that their dreams will be big . . . dreams of an economically sound, industrially strong, fully prepared America!

AMERICAN BRIDGE

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UNITED STATES STEEL

Safety Efforts Expanded

The National Safety Council's Construction Section will expand its efforts to improve safety in the construction industry and reduce the too large number of accidents which occur in this occupation every year.

This was the resolve of the section's Executive Committee which met recently. The committee recommended extending the section's educational and publicity activities with the aim of selling top management on the life-saving and money-saving features of a well-organized accident prevention program for each job.

It was also agreed that more time should be spent on the analysis of construction accidents for the purpose of determining what types of accidents need the most attention in the development of prevention techniques.

The winter meeting of the committee was held in New York under the chairmanship of H. W. Richardson, editor of *Construction Methods and Equipment*. A.G.C. representatives and members who attended the session are H. B. Alexander, Harrisburg, chairman of the association's Accident Prevention Committee; O. Lupinski, Lupinski, Inc., Milwaukee; S. D. Webb, Dravo Corporation, Philadelphia; and J. M. Sprouse who attended for W. E. Woodruff, public relations director for the national staff.

250 Attend Penna. Meeting

A record crowd of 250 attended the fall meeting of the Superintendents' and Foremen's Dinner held by the Constructors Association of Western Pennsylvania, A.G.C.

Superintendents and foremen, the men directly responsible for safety on the job, heard Joseph A. Deluca, division superintendent, Construction Division, DuPont Corporation, deliver a talk on "Human Factors Involved in the Prevention of Accidents" and describe the general accident prevention program used by his company on projects throughout the country.

Also included on the program was the Aetna Life Insurance Company's movie, "Before the Blast," which details the high degree of care needed in the handling of explosives.

A.G.C. Publishes Series of Safety Booklets

» STRIKING AT THE HEART of the construction industry's accident prevention problem, the A.G.C. has published 14 pocket-sized booklets covering all phases of construction safety. Construction workmen and supervisory personnel can carry their safety instructions with them.

The booklets are reprints of the association's *Manual of Accident Prevention in Construction*, published 25 years ago and revised periodically. Each 4 x 6-inch booklet carries one or more appropriate sections of the manual, the series being designed to cover any worker's activities on the job in one or two booklets.

The manual, intended for office use, has been approved by the American Standards Association. Sections of the manual which appear in the booklets include the following (letters identify the booklets):

A—explosives; B—hoists, cranes and derricks; C—scaffolding; D—housekeeping, camp housing and sanitation, occupational diseases; E—demolition, excavation; F—arc welding, gas welding and cutting, explosive gases and liquids; G—handling and storage of materials, shoring, barricades, pile driving; H—form construction and concrete placement, steel erection, masonry, ladders, power saws, hand tools; I—motor trucks, garages and repair shops; J—road and street construction, motor graders, bulldozers and tractors, conveyors and cableways, equipment upkeep; K—tunnels, shafts, compressed air work; L—boilers, unfired pressure vessels, temporary electrical installations, fire hazards and prevention, protective clothing; M—railroad construction, quarries and gravel pits, laying pipe line, boats and barges; N—inspection, reference tables and alphabetical indexes.

Cost of the booklets ranges from 10 cents for one copy to $65 for 1,000 copies. They are available at most A.G.C. chapter and branch offices or the national office, Washington, D. C.

390 Report In A. G. C. 1951 Safety Program

» ACCIDENTS COST the 390 firms which participated in the A.G.C.'s 1951 accident prevention program an average of $22,263 for the year. This sum includes the cost to employees as well as employers.

The analysis of complete returns also shows that the frequency rate (the number of accidents per million man-hours worked) was 44.9 compared with 40.7 for the previous year. The severity rate (the number of days lost per 1,000 man-hours) was 2.891 in 1951 and 3.154 in 1950.

Every year the A.G.C. compiles accident returns sent in by its members and issues merit awards during its annual convention. The purpose of the program is to expand contractors' interest in construction safety.

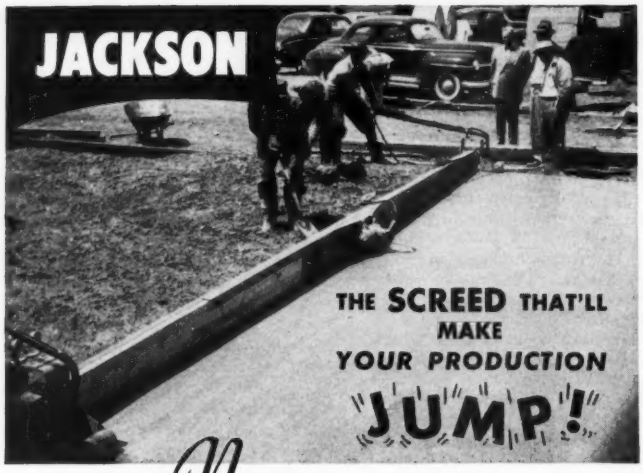
Returns for 1951 were sent in by 390 members with a total of 120,085,075 man-hours—an increase of 25% over the 311 firms with a total of 95,252,896 man-hours which reported in the 1950 program. This increase comes on top of the 69% increase in firms participating in the 1950 program over 1949.

During 1951 the average number of days lost per accident was 17% less than in 1950. In 1951, 5,341 accidents were reported with 347,219 days lost or an average of 65 days lost time per accident. In 1950 there were 3,855 accidents reported with 300,465 days lost or an average of 78 days lost time per accident.

Merit awards will be presented during the A.G.C.'s 33rd annual convention which opens in Detroit on February 25. The awards are based on records of contractors in each of the association's three divisions—Building, Highway, and Heavy-Railroad. Besides the records for 1951, records for the previous five and ten years also figure in the awards. Awards are also made to the A.G.C. chapters having the highest percentage of members participating in the program.

Winners of awards for records during the last five years will be chosen from among 41 firms reporting 80,847,372 man-hours with a frequency rate of 46.54 and a severity rate of 2.151.

In the 10-year award class there are 17 firms reporting a total of 160,356,524 man-hours with a frequency rate of 35.54 and a severity rate of 3.540.



Nothing compares with it for convenience, thoroughness and productivity on municipal concrete paving, highway widening, bridge-decks and similar jobs. It strikes off to any crown, undercuts at curb or sideform, works up to and around all obstructions. Permits pouring slabs up to 30' without center joint. Requires only two men on widest slab and is the only screed that can be rolled back for second passes on **4 rollers.** Powered by Jackson 1.25 KVA Power Plant. Get the jump on competition. For Rent or Sale at your Jackson distributor. Details on request.

AND FOR A *Revolutionary* MEANS OF COMPACTING ASPHALT . . .

. . . in highway patching or widening, walks, drives, railway platforms and street crossings, etc. . . . investigate the new Jackson Vibratory Compactor. It delivers up to 4500 1¾-ton blows per minute; propels itself and will compact 900 to 1200 sq. ft. per hour close to maximum density of asphaltic mix used. Easy to move from one location to another by means of quick pick-up trailer unit on which Power Plant is mounted. Also ideal for granular soil compaction. For Rent or Sale at your Jackson distributor. Details on request.

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ACCIDENT PREVENTION

Indirect Cost of Accidents

The accident: An iron worker, while placing a roof truss on a new one-story garage by means of a gin pole, fell about 12 feet injuring his shoulder and spraining his ankle.

Direct cost: $60 for compensation and medical aid.

Proximate results: The workman had stumbled over a billet plate which he had left lying on his scaffold. Trying to break his fall he grabbed the end of the suspended truss which swung against a 15-foot-high cinder block wall toppling it onto three parked cars. The operator, attempting to land the truss, lowered it too rapidly and fractured the chord member. The truss had to be dismantled and rebuilt.

Indirect costs: $1,175—20 times the direct cost.

Prevention: Tools and equipment must be kept in their proper place.

Note: The Kansas Chapter, Builders Division, A.G.C., is reprinting the above accident prevention feature on the back of postal cards and is mailing them to supervisory personnel of its members. To date, there have been five articles published in consecutive issues of THE CONSTRUCTOR.

High Cost of Accidents Cited

Accidents cost the United States $7 billion a year, 350 members and guests of the Milwaukee Chapter, A.G.C., were told at a recent meeting.

One of the largest safety meetings ever held for the construction industry in the Milwaukee area, it was well attended by superintendents, foremen, and other key personnel of construction firms, and representatives of labor organizations.

Principal speaker at the fall meeting was Arthur J. Matthias, training supervisor of Nash Motors, Inc., Kenosha, Wis., who emphasized the need of participation by labor and management in safety programs throughout industry.

Mr. Matthias said that construction superintendents and shop foremen must carefully evaluate the personalities of the people with whom they work so that each employee can be convinced of the value of safety.

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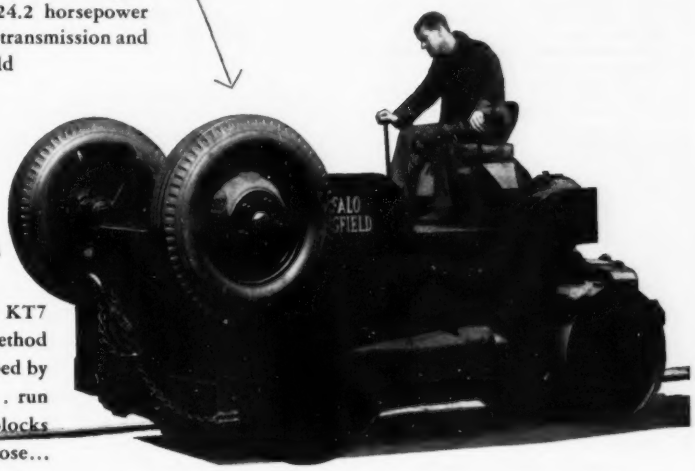
PORTABLE

IT'S A CONVENTIONAL TANDEM ON THE JOB

The 3 to 5 ton KT7 is ruggedly built to designs that have made Buffalo-Springfield Rollers famous the world over. Guide and drive rolls are made of heavy steel plate. The compact 4-cylinder engine delivers 24.2 horsepower through a simple two-speed transmission and the famous Buffalo-Springfield bevel gear final drive.



EASILY RIGGED FOR TOWING

One man can rig the KT7 for towing by this method originated and developed by Buffalo-Springfield . . . run the roller up on wedge blocks provided for this purpose... remove wheels from carrying bracket and insert in towing position . . . hook up towing attachment to truck . . . use built-in hydraulic jack to raise the drive roll.

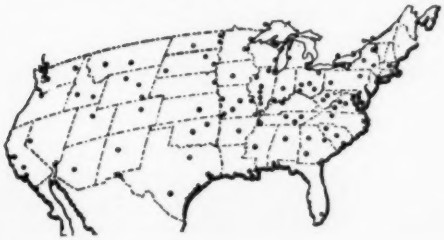
. . . IN JUST 3 MINUTES the KT7 is ready to travel!

A WILLING WORKER FOR MANY JOBS

Driveways, parking lots, roads and streets, maintenance . . . easy portability of the KT7 makes it possible to accomplish many jobs in a single day. It's a willing worker, too—hydraulic steering and exceptional maneuverability make jobs go fast—save wear and tear on operators—give you a quality job you'll be proud of.

And KT7's low cost and time-saving ability will mean a new rate of profit for your operation.

THERE'S A BUFFALO-SPRINGFIELD DISTRIBUTOR CONVENIENTLY LOCATED TO SERVE YOU



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1.	A.G.C. Manual (Contains documents listed below: Nos. 3-30, inclusive, and Nos. 34, 35, 36, 36a, 37, 38)	$5.00	$50.00	.....
2.	Accident Prevention Manual (Revised and enlarged 1949)	3.00	30.00	$210.00
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3.	Standard Contract for Engineering Construction issued by the Joint Conference on Standard Construction Contracts	.25	2.75	20.00
4.	Standard Building Contract of the American Institute of Architects—Revised 6th Edition	.50		47.50
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7.	Standard Government Contract	.10	.50	4.00
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17.	Job Overhead Summary	.10	.50	3.00
20.	Contractors' Equipment Ownership Expense (Itemized tables of ownership expense elements with instructions for application. Revised 1949)	1.00	10.00	65.00
21.	Equipment Record—Bond paper	.10	.50	3.00
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24.	Standard Pre-Qualification Questionnaires and Financial Statements for Prospective Bidders—Complete in Cover Engineering Construction (For Qualifying Before Bidding)	.20	1.80	12.00
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	MISCELLANEOUS			
29.	Insurance Check List	.10	1.00	5.00
30.	The Functions of a General Contractor	.10	.75	6.00
34.	A.G.C. Governing Provisions	.10	.50	3.00
35.	A.G.C. Code of Ethical Conduct	.10	.50	3.00
36.	Concrete Mixer Standards	Single copies — no charge; quantity prices on application.		
36a.	Contractors' Pump Standards			
37.	A.I.A. Standard Form of Arbitration Procedure			
38.	Suggested Guide to Bidding Procedure			

FOR A.G.C. MEMBERS ONLY

A.G.C. EMBLEM

List of Styles and Prices on request.

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39.	A.G.C. Cardboard Seal (red and black) 24" dia.	.50
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	b. 5" dia.	.10

Metal Seals and Decals: 20% discount for orders of more than 50; 40% discount for orders of 200 or more.

43. A.G.C. SOCIAL SECURITY FORMS

Form SS1: Application for Employment; Form SS2: Employees' History Record; Form SS3: Employees' Employment and Earnings; Form SS4: Payroll. List of prices and styles will be furnished to A.G.C. members on request.

USE THE CONVENIENT COUPON TO PLACE YOUR ORDER

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43. Price List and Samples ☐

Price List and Styles of Emblem ☐

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Make Checks payable to CONSTRUCTION FOUNDATION, A.G.C., Munsey Building, Washington 4, D. C.

Gentlemen: Enclosed find check for $..... for which please send materials as ordered by number herewith.

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Feb. 1952

Indiana Highway Group Elects Ryan

» THE MORE than 300 general contractors and their guests who attended the 28th annual meeting of the Indiana Highway Constructors, Inc., A.G.C., heard discussions on Indiana's and the nation's highway problems, an outline of the functions of the price regulation tailored especially for the general contracting industry and were advised of the part that general contractors can play in the state's civil defense program.

At the opening of the three-day meeting in French Lick, the following were elected to serve as officers during 1952: president, Mike Ryan, Ryan Construction Co., Evansville; vice president, Robert C. Moellering, Moellering Construction Co., Fort Wayne; and secretary-treasurer, E. B. Johnson, Indianapolis. W. M. Holland is executive secretary.

The construction industry price regulation, CPR 93, was discussed by one of its drafters, Thomas A. Letchworth, chief of the Construction Section, Building and Materials Branch, Office of Price Stabilization. The Washington official said the regulation was a sincere attempt to produce a workable law which would alleviate many of the difficulties contractors experienced under CPR 34.

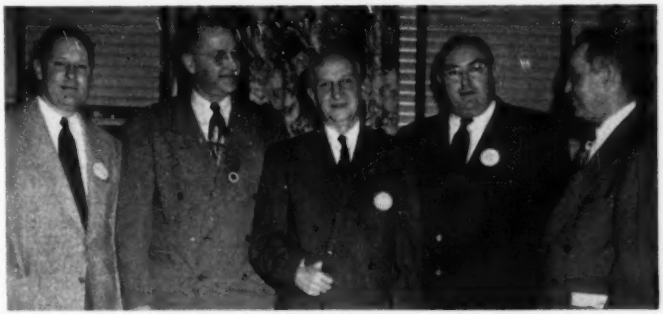
Adequate Roads Cost Money

Drastic measures must be adopted to provide Indiana the roads and bridges needed, Governor Henry F. Schricker told the group. As federal-aid highway funds are not providing enough to finance the state's highways, Governor Schricker suggested that gasoline taxes be increased and that a toll road be established.

The subject of toll roads was further discussed by James D. Adams, chairman of the Indiana Toll Road Commission. Samuel C. Hadden, chairman of the Indiana Highway Commission, spoke on "Citizen Support of Highway Development." A. N. Carter, manager of the national A.G.C.'s Highway Division, Washington, D. C., outlined the status of critical materials.

General contractors and engineers, because of their know-how and their equipment, are most essential to a successful civil defense program, it was pointed out by Lieut. Frederick Cretors, director of Indiana civil defense. Mr. Cretors emphasized the importance of an effective civil defense program in the state and across the nation.

The chapter's board of directors for 1952 will be composed of the following: R. W. Brown, Milford; Gaylord H. Sears, Fort Wayne; R. L. Schutt, Indianapolis; E. B. Johnson, Indianapolis; Mike Ryan, Evansville; K. M. Winslow, Salem; R. P. Gast, Warsaw; R. C. Moellering, Fort Wayne; and James S. Sweet, Cambridge City.



Left to right are Vice President Moellering, Retiring President Schutt, Governor Schricker, President Ryan, and Executive Secretary Holland.

A.G.C. of Illinois Elects J. F. Gallagher

The annual meeting of the A.G.C. of Illinois was attended by more than 500 contractors and guests who heard a host of speakers talk on current problems of the construction industry.

During the Dec. 10-11 meeting J. F. Gallagher, Gallagher Asphalt Co., Inc., Thornton, was elected president of the chapter. He succeeds T. E. Fieweger, Central Engineering Co., Davenport, Iowa.

Vice president for 1952 is Orville Shelato of McCalman Construction Co., Danville, and secretary-treasurer is T. H. Joyce, Jr., Joyce Bros. Contracting Co., Springfield, who was re-elected. Milo P. Flickinger is executive secretary.

Shown below, left to right, are Mr. Gallagher, Mr. Shelato, Mr. Flickinger and Mr. Fieweger.

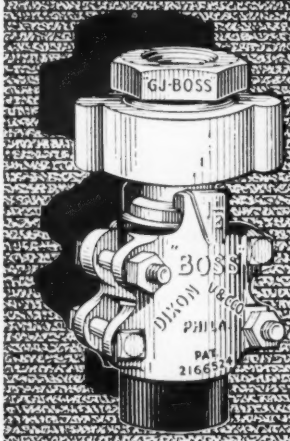
Elmer R. Knight, assistant state highway engineer, outlined for contractors what he said would be the second largest road building program in Illinois' history.

B. L. Knowles, engineer adviser of the A.G.C.'s national staff in Washington, D. C., spoke on national construction affairs and the activities of the association with respect to legislation.

Other speakers who attended the Springfield meeting were G. Donald Kennedy, assistant to the president of the Portland Cement Association, Chicago, and C. M. Hathaway, consultant, Illinois Division of Highways.

Directors are E. T. Simonds, E. T. Simonds Construction Co., Carbondale; H. W. Hartman, S. M. H. Construction Co., Peoria; George M. Albright, Powers-Thompson Construction Co., Joliet; H. H. Hall, Hall Construction Co., East St. Louis; Leo Eaton, Berenz & Son Asphalt Co., Bloomington; and Clay V. Hoskins, Jefferson Asphalt Co., Inc., Mt. Vernon.

Flawless Quality and Performance



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Ground Joint Female Coupling
Style X-34

The original washerless hose coupling . . . product of true perfection in design and construction. Provides unequalled convenience, durability and safety on all high or low pressure lines. Cadmium plated—rustproof.

Stocked by Manufacturers and Jobbers of Mechanical Rubber Goods.

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North Dakota Celebrates 2nd Year

The 2nd annual convention of the A.G.C. of North Dakota was attended by 400 members and guests.

Among the guests attending the meeting held recently at Grand Forks, was R. J. Hendershott, manager of the A.G.C. of Minnesota, whose work through 1947-50 laid the basis for the formation of the chapter which has grown to a total of 50 members.

During the two-day convention session, Arthur C. Johnson, Meinecke-Johnson Co., Fargo, was elected president, succeeding Joseph T. Powers, T. F. Powers Construction Co., Fargo.

Francis Butler, Butler Construction Co., Grand Forks, was elected vice president of the Highway-Heavy Division; William Gillanders, Johnson-Gillanders Co., Grand Forks, vice president of the Builders' Division; and Tom Sornsin, Tri-State Excavating Co., Fargo, was re-elected secretary-treasurer. Wesley Bastedo is the chapter's manager.

Directors elected are Mr. Butler, and Kenneth Collins and John B. Jardine, both of Fargo.

Pictured above, seated left to right, are: Messrs. Butler, Bastedo, Johnson and Gillanders. Standing are: Messrs. Collins and Sornsin; E. A. Moline, Jamestown; Mr. Jardine; and A. M. Swingen, Grand Forks. These men plus I. E. Orheim, Minot, constitute the chapter's board of directors.

Memphis Chapter Elects George Wible

The Memphis Chapter, A.G.C., elected George Wible of the S & W Construction Co. as president for 1952. R. M. Lee, Lee Construction Co., was elected vice president and W. W. MacLaughlin was re-elected secretary-manager.

Retiring President Seth E. Giem, Seth E. Giem & Assos., was appointed chairman of the chapter's Advisory

Council and Parker Johnston of the Collins Ornamental Iron Co. was appointed vice chairman. The Advisory Council is composed of three general contractors and one representative from each segment of the construction industry included in the chapter's associate membership.

In the picture, standing left to right, are the 1952 directors: W. F. Fay, Clark & Fay; J. Walter Jones, Wessell Construction Co.; Seth E. Giem; and N. F. Maury and John R. Wedaman, of Maury & Wedaman. Directors seated are, left to right, D. M. Dougherty, Dougherty-Liddell Construction Co., and John Cassidy of Seth E. Giem & Assos. To the right of Cassidy are Chapter Officers Wible, Lee and MacLaughlin, and Mrs. Francis Bill, office staff.

Chapter Changes Labor Set-up

The adoption of a new labor relations program was announced by David B. Johnson as he assumed his office of president of the Chicago Builders' Chapter, A.G.C., recently.

The new program is designed to give more members of the chapter an opportunity to participate in labor negotiations carried on by the chapter's Arbitration Board by dividing the board into seven parts. In previous years the five-member board made agreements both as to working rules and as to wages with seven trade unions in the area. The seven arbitration units and their chairmen are as follows: Bricklayers Arbitration Board, Royal L. Brockob; Carpenters Arbitration Board, William F. Krahl; Building Laborers and Chauffeurs Arbitration Boards, Arthur H. Wells; Hoisting Engineers Arbitration Board, William O'Neil; Cement Finishers Arbitration Board, A. L. Jackson; and the Technical Engineers Arbitration Board, Charles W. Haynes.

D. B. Johnson

President Johnson, head of Charles B. Johnson & Son, Inc., and the newly elected vice president, E. H. Marhoefer, general contractor, will serve as ex-officio members of all boards.

Arthur H. Wells, John Griffiths & Son Construction Co., is 1952 treasurer, and H. Mayne Stanton continues as secretary of the chapter.

The Name HOPE'S Guarantees

Lok'd Bar FACTORY SASH

The strongest factory sash you can buy. "Lok'd Bar" design gives greater strength for its weight of metal. Stouter construction increases resistance to wear, tear and corrosion. Saving in upkeep cost, trouble-free operation and saving in heat losses more than return its small added cost to the owner.

The bulb tee makes the strongest vertical sash bar.

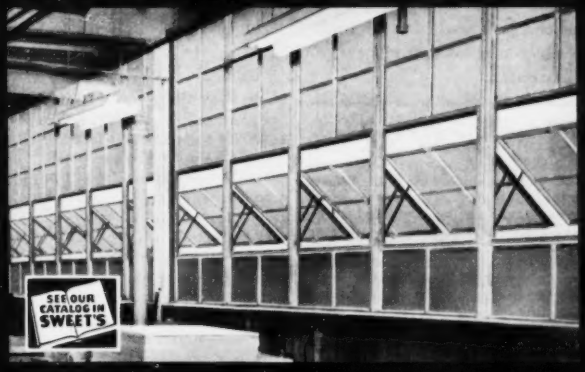
The flat tee muntin totally replaces the steel pierced from the upright — making "Lok'd Bar" the strongest sash joint.

Broad, double contacts on accurate surfaces abolish drafts, save heat. Weathering flanges have no tacked-on strips to corrode and break loose.

Corners solid-welded, each ventilator frame and casement reinforces the sash, withstands wind and shock for the life of the building.

Engineers like "Lok'd Bar's" extra safety in window walls. Builders find labor savings in installation. Look into Hope's "Lok'd Bar" sash for every good industrial building. Hope's Engineering Department will assist you with detail of window design and installation. Ask for this help!

Projected ventilator, balanced on strong steel arms with brass guides held in true position. (Pivoted ventilators are balanced on solid bronze cup pivots.)



"Lok'd Bar" means the world's finest factory sash. Ask for Catalog 103L

HOPE'S WINDOWS, INC., Jamestown, N. Y.

The Finest Buildings throughout the World are Fitted with Hope's Windows

For most efficient

internal vibration

of concrete

get **VIBRO-PLUS**

—the VIBRATOR

THAT USES ITS HEAD!

The Vibro-Plus ROLLGEAR vibrator head steps up low shaft speeds to high vibrating speeds —11,000 to 15,000 per minute.

Because it vibrates at such high speed, Vibro-Plus compacts concrete more effectively, more rapidly, more economically.

Because motor and shaft speeds are low, a smaller motor may be used—shaft life is longer—maintenance is less. Thus you get more effective, more dependable performance—at lower operating cost. *ROLLGEAR* is the reason—and only Vibro-Plus has this patented vibrator head. Write for bulletin and nearest distributor.

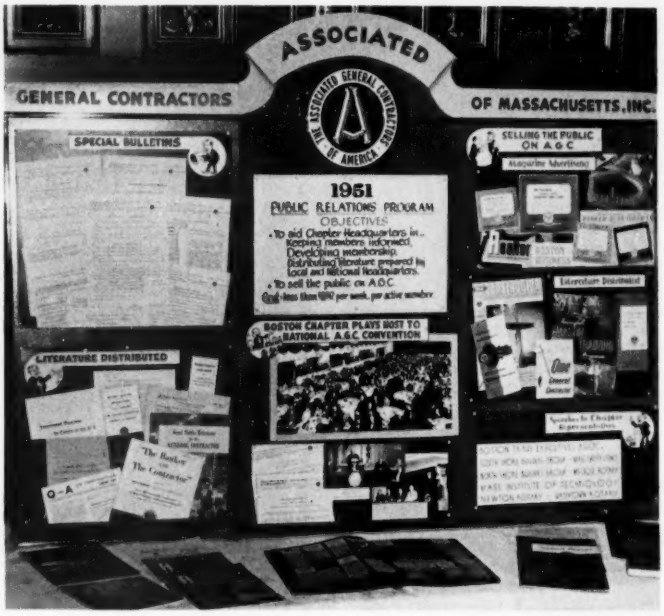
TYPE ERSB *is electrically operated, using a 1 HP 110/220 V. single phase or 110/220 V. 3-phase fully enclosed motor on a swivel or skid base. 20 or 30 ft. flexible shaft connects with snap coupling, and can be lubricated in 15 seconds even while running. The ROLLGEAR head is available in 1¾", 2 3/16" or 2¾" diameters. Shaft and head can also be used with gasoline or pneumatic drive. Grinding attachments available.*

VIBRO-PLUS PRODUCTS, INC.

54-11 QUEENS BOULEVARD

WOODSIDE, L. I., NEW YORK

Mass. Meeting Features Public Relations



Public relations display at contractors' meeting in Massachusetts.

During the annual meeting of the A.G.C. of Massachusetts, Boston Contractors Charles B. Solomon, George B. H. Macomber Co., and Nicholas B. O'Connell, Turner Construction Co., were re-elected president and vice president of the chapter, respectively.

The 1952 secretary is William F. White, Richard White Sons, Inc., and the treasurer is Cesare Vappi, Vappi & Co. Also, it was announced that Thomas S. Gunning, a former employee of the Massachusetts Department of Insurance, has been appointed to assist Allan E. Gifford, executive secretary of the chapter.

A feature of the meeting was the large display of A.G.C. public relations material shown above. The public relations program of the A.G.C. of Massachusetts is carried on by its Public Relations Committee headed by Samuel H. Zitter and assisted by the Eddy-Rucker-Nickels Co., Cambridge advertising agency.

Principal speaker was Welton A. Snow, A.G.C. national staff, Washington, D. C., who discussed the joint work of the American Institute of Architects and the A.G.C.

Philadelphia Elects Cullen

General contractors who attended the annual meeting of the Philadelphia Chapter, A.G.C., were told of the consequences of the recent decision in the Wunderlich case by H. E. Foreman, Washington, D. C., managing director of the association.

The effects of the Supreme Court's ruling have been brought to the attention of the Chairmen of the Senate and House Judiciary Committees and the A.G.C. has requested that legislation be introduced to prevent misuse of public and private funds involved in contract determinations, he stated.

Mr. Foreman also outlined recent activities of the National Production Authority and field representatives of the Office of Price Stabilization discussed construction industry price controls.

New officers elected at the meeting are J. Russell Cullen, president; John W. English, 1st vice president; R. M. Shoemaker, 2nd vice president; and Thomas S. Keefer, treasurer. Harry P. Taylor is executive secretary.

Chapter Eyes Group Insurance

The prime topic discussed during the annual banquet of the Master Builders Association, Inc., Washington, D. C., was the group insurance plan which the chapter is considering.

The plan would provide participating member firms with group insurance covering all employees with life, accident, dismemberment, weekly indemnity, hospitalization and surgical protection. Participation of 50% of the members is required before the plan can be enacted.

Officers installed during the Jan. 8 meeting are B. T. Rome, Geo. Hyman Construction Co., president; Joseph F. Parkhi'l, Parkhill Construction Co., 1st vice president; and Paul Hauck, John McShain, Inc., 2nd vice president. Randall C. Wyant continues as secretary-treasurer.

Harry J. Kirk, national A.G.C. staff, spoke on the effects of the Supreme Court's decision in the Wunderlich case, outlining A.G.C. action to have Congress modify its effect.

The board of directors for 1952 is composed of W. E. Cramer, Cramer-Vollmerhausen Co., Inc.; A. Tester, John Tester & Son, Inc.; G. L. Dyer, Jeffress-Dyer Inc.; A. L. Roe, W. P. Lipscomb Co., Inc.; J. F. Nebel, J. F. Nebel Co.; and George Scharf, Prescott Construction Co., Inc.

Chapters Announce Elections of Officers

Several chapters and branches of The Associated General Contractors of America have elected 1952 officers at recent meetings as follows:

Eastern Washington Builders Chapter elected J. L. Hazen, Hazen & Clark, Spokane, as president. Gus J. Bouten, Gus Bouten Construction Co., Spokane, was named vice president. W. H. Peacock is executive secretary.

Directors elected include Messrs. Hazen and Bouten; Retiring President Vern Johnson, Bushboom & Rauh, Spokane; Marvin Cherf, Cherf Bros. Construction, Ephrata; and E. R. Haynes, Central Construction Co., Spokane.

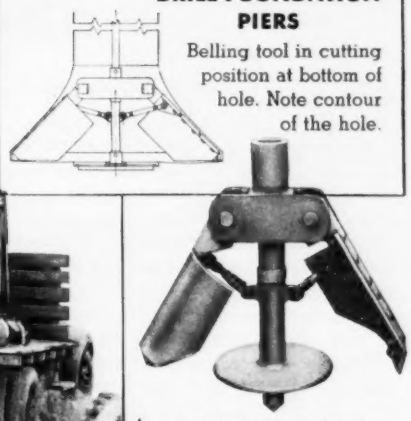
Nevada Chapter will be headed by Walker Boudwin, Walker Boudwin Construction Co., Reno. Other officers elected are Francis R. Smith, Reno,

SAVE TIME, LABOR, MATERIAL

Drill BELLED PIER HOLES WITH A BUDA EARTH DRILL and BELLING ATTACHMENT

DRILL FOUNDATION PIERS

Belling tool in cutting position at bottom of hole. Note contour of the hole.



Buda Model HBR Earth Drill. Drills diameters to 52"; Depths to 24 ft

Cut costs, save material and speed production of foundation or anchor pier holes with a Buda Earth Drill and the new Belling Tool. Quickly attached to the Earth Drill spindle, the Belling Tool enlarges the bottom of a drilled hole to the proper bell shape to provide more bearing surface for positive anchoring of concrete.

Belling action is positively hydraulically controlled as the drill spindle is fed down into hole. Excavated material is gathered into the Belling Tool and brought up on the Bottom Plate. Belling Tools are available for bored holes 12" to 42" in diameter; maximum diameter of bell 2 to 2½ times diameter of hole on most sizes. Ask your Buda Earth Drill Distributor for complete details. Write for Bulletins, Specifications, Prices.

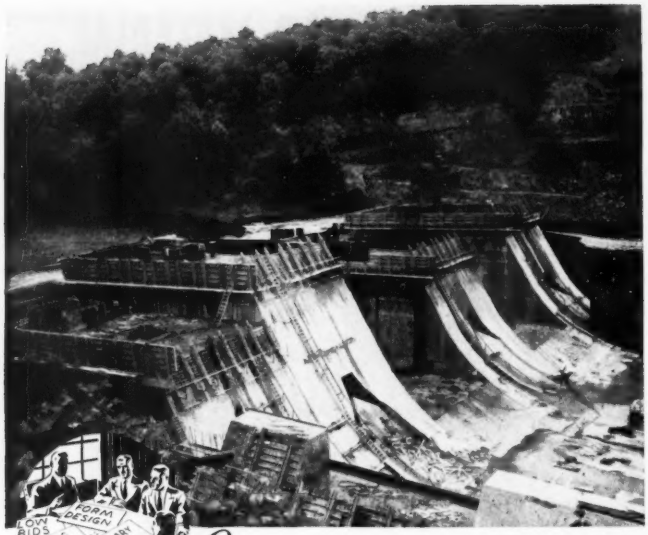
BD-10

Nation-Wide Service—BUDA

Write for name of your nearby Buda Earth Drill Distributor

THE BUDA COMPANY
Harvey, Illinois

COAST TO COAST



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before your plans are drawn on engineered construction jobs

• EVEN BEFORE the plans are drawn . . . *before* the blueprints are made on your next engineered construction job, call in Blaw-Knox engineers for the expert consultation service that assures lower concrete placing costs.

Blaw-Knox engineers are backed by over 40 years experience in solving tough or unusual concreting problems. They are trained to get to the core of your problem and find the simplest, least costly method of solving it. They can suggest operating procedures to speed the job, or cut down the necessary number of operations. They will recommend the most efficient forms for the job and help you estimate your bids.

Whatever your concreting problems—dams, tunnels, bridges, even small sewers—take advantage of the Blaw-Knox engineering service *before* you start to plan. Write, wire or phone for information.

Preliminary planning plus BLAW-KNOX STEEL FORMS saved one costly concreting operation

• This big tunnel job is a typical example of how early consultation pays off. Blaw-Knox engineers showed the contractor how to combine the collapsible Steel Forms to permit concreting of side walls and roof arch in one operation. One step in construction was saved, and the necessity of using an expensive copper water stop was eliminated.

STEEL FORMS

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Get complete details about Blaw-Knox Steel Forms and the consultation service that is available to any contractor without obligation.

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1st vice president; Wendell Nelson, Fallon, 2nd vice president; C. V. Isbell, Reno, treasurer; and Edward L. Pine, re-elected secretary-manager. Lyell Kofoed is assistant secretary and William J. Cashill is attorney for the chapter.

Directors include John H. C. Roberts, Reno; Howard Wells, Reno; E. J. Maupin, Jr., Fallon; and Earl Games, Reno, retiring president.

Waco Chapter named J. T. Hooker, Hooker Construction Co., as president. He succeeds W. H. Smith, Smith Building Co. New vice president is Joe L. Hicks and secretary-treasurer is W. P. Sparks, Jr.

Directors are Mr. Smith, W. G. Adams, C. L. Hendrick, R. M. Hicks, Ed Johnson, W. P. Jones, Harlan Hackbarth, A. G. Williams, O. T. Chapman, D. R. Hendrick, and K. A. Sparks. Continuing as manager of the chapter is Brooks W. Pearson.

A. G. C. of New Jersey elected Henry J. R. Dorer, Ell-Dorer Contracting Co., to succeed Angelo Villa, Villa Contracting Co., as president.

Other officers named at the chapter's annual meeting are Jack H. Warner, Marsellis-Warner Corp., Irvington, 1st vice president; R. B. Jaggard, R. B. Jaggard Engineering Co., Westmont, 2nd vice president; and Ole Hansen, Ole Hansen & Sons, Inc., Pleasantville, secretary-treasurer. General manager of the chapter is Hugh J. Connelly.

Speaker at the meeting was Governor Alfred Driscoll, New Jersey, who outlined proposed expansion of the New Jersey Turnpike.

Austin Chapter has chosen John Broad, John Broad Construction Co., to succeed Leslie F. Crockett, Leslie F. Crockett Construction Co., as president. Other officers named are 1st vice president, Frank R. Rundell; 2nd vice president, J. W. Lawless; and secretary-treasurer, J. M. Odom. Directors elected for two-year terms are W. D. Anderson and Mr. Crockett. Fannie Davis is executive secretary.

Northeastern Florida Chapter re-elected Ira Koger, O. P. Woodcock Co., Jacksonville, as president. Fred M. Cox, building contractor, was

elected vice president and L. M. Newkirk, A. D. Newkirk & Son, Inc., secretary-treasurer. W. S. Binckley is manager of the chapter.

San Antonio Chapter has re-elected its 1951 officers. They are: president, J. C. Worcester; vice president, Dee Forgy; and executive secretary, Paul Adams.

Central Louisiana Chapter re-elected R. J. Jones, R. J. Jones & Sons, Alexandria, as president. Other 1952 officers are Vice President Joe Gossen, Lafayette; Vice President Herbert Gremillion, Alexandria; Secretary James A. Eiland, Jr., Bunkie; and Treasurer J. E. Rateliffe, Alexandria.

Directors are Bob Tudor, Alexandria; Sam Kaplan, Lafayette; Barnet Brezner, Alexandria; Horace B. Rickey, Lafayette; Paul Romero, Youngsville; W. J. Mouton, Lafayette; W. W. Rabalais, Bunkie; and Henry Rockhold, Alexandria. S. P. Eggers, Jr., is executive secretary.

New England Marine Contractors Chapter has named the following as officers of the chapter for five-year terms: Incumbent president, Walter G. Cheever, Blakeslee Rollins Corp., Boston, president; William J. Power, Roy B. Rendle & Co., Inc., secretary; and Frank M. Gosbee, Roy B. Rendle & Co., Inc., treasurer.

Florida East Coast Chapter named Carl Lissenden, P. C. Lissenden Co., to succeed V. R. Gorham, Cleary Bros. Construction Co., as president.

Ray W. Sheldon, R. W. Sheldon Construction Co., was elected vice president and John H. Birdsall, Jr., secretary-treasurer. Executive manager of the chapter which is headquartered in West Palm Beach is William P. Bobb, Jr.

Board members are W. H. Arnold and Norman Latham. On the associate board of directors are John H. Couse, V. L. Burkhardt, Dale Alexander, C. A. Fleicher and Howard Carpenter.

Rio Grande Valley Chapter elected Jack Choate, Harlingen, president; C. P. Thise, vice president and Frank

The MAJORITY of Your Heavy Hauling Jobs can be handled PROFITABLY with... the POPULAR

ROGERS Type "T"

LARGE CAPACITY IN AN 8 FT. DECK WIDTH—LEGAL IN ALL STATES. 8 TIRES ON 2 ROCKING STUB AXLES WITH LEVEL OR DROP DECK IN 15, 20, 25, 30 and 35 TON CAPACITIES

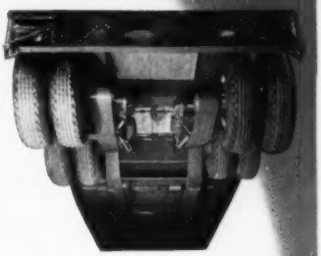
By reason of its versatile adaptability to all kinds of heavy hauling jobs, the Rogers Type "T" has steadily increased in popularity.

It's a "natural" for small and large contractors and haulers.

If you are considering the purchase of one or more trailers, by all means investigate the Type "T".

It packs powerful advantages in a multi-purpose single unit.

Write for full details and catalog.



A worms-eye view of the sturdy rear end and frame construction of the famous "T".

The rear end design of the Type "T" has proved so efficient it has been adopted as standard construction in Rogers Power-Lift Detachable Gooseneck Trailers.

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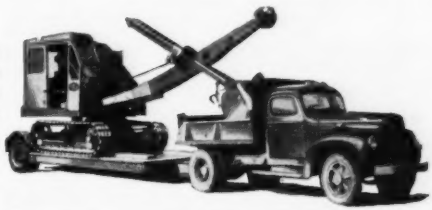
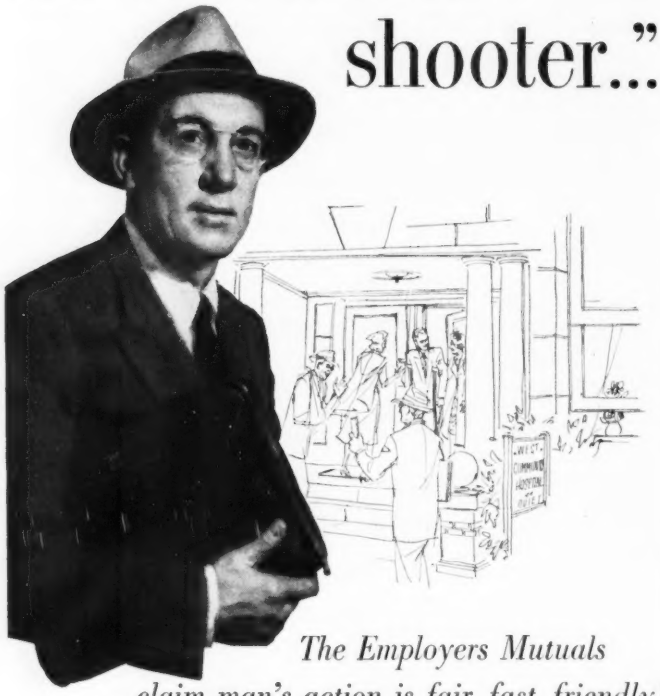
Also of timely interest is this ROGERS Tag-A-Long trailer which makes a dump truck serve as a tractor and effects sizable savings for contractors.



MEET YOUR "trouble-shooter..."



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Small wonder the Employers Mutuals claim man in your locality is a popular fellow with our policyholders and their employees! For he is a sincere man of understanding, experience and character... company-trained to *investigate* claims promptly and thoroughly, authorized to *settle* them speedily and equitably.....

The employee with a claim gets top "Performance in Action" from this Employers Mutuals "team" member ...a choice of doctors, with medical specialists wherever indicated ...on-time arrival of compensation checks ... humane treatment always! The employer appreciates having claims handled by an insurance company that's "fast on its feet"... that handles claims in a manner that retains employee good will, builds organization morale, wins confidence in the employer's judgment.

The Employers Mutuals Team

Working in cooperation with the other members of the "team" assigned to your account, the Employers Mutuals claim man specializes in giving you—and those working with you—the kind of insurance service you, as an owner-policyholder, rightly expect from this successful, seasoned insurance organization.

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EMPLOYERS MUTUALS *of* WAUSAU

CHAPTERS • BRANCHES

G. Parker treasurer. Randolph Fleuriet continues as managing director. Directors are E. J. Waitman, J. B. Hughes and Fred M. Allen.

South Texas Chapter elected C. L. Cox, Lawless & Alford, Inc., Corpus Christi, as president. Other officers elected are C. C. Hinchberger, vice president and Guy Braselton, treasurer.

C. L. Cox

New directors are retiring President E. P. Edgeworth, Jr., Edgeworth Construction Co.; B. E. Bigler, E. E. Harrison and Howell Caldwell. Continuing as managing director of the chapter is Curtis Bell.

Dallas Chapter named Leo P. Morgan, J. E. Morgan & Sons, El Paso, as president. Mr. Morgan, in charge of the Dallas office of the firm, succeeds T. J. Hayman, Inge-Hayman Construction Co., Inc., Dallas.

Other officers are Charles A. Vilbig, Vilbig Bros., vice president, and J. O. Boyd, secretary-treasurer. Julian Capers, Jr., is managing director.

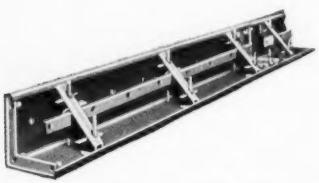
Retiring President Hayman reviewed the chapter's activities for the year at the annual meeting. On hand from the A.G.C.'s national staff in Washington were Harry J. Kirk and William E. Dunn.

Mr. Dunn discussed Ceiling Price Regulation 93, operations of the Davis-Bacon division of the Department of Labor, and the effects of the Supreme Court's decision in the Wunderlich case. Mr. Kirk outlined the functions and aims of the association's accident prevention program.

Directors elected are William L. Hickey, Hickey & Co., and J. Lawrence Jones, general contractor. Mr. Hayman automatically became a member of the board.

Portland Chapter, Building Division, re-elected Henry M. Mason of Henry M. Mason Co., Inc., as president. Vice president is Robert Wallace of Robertson, Hay & Wallace. Secretary-treasurer is again Wilford C. Long of the law firm, Scudder & Long.

Airport Paving Form—*Blaw-Knox Division, 2060 Farmers Bank Bldg., Pittsburgh 22.* Heavy-duty paving forms, developed to meet requirements of thicker pavement slabs for airports, are available in sizes above 12″ and can be furnished in any height required. They are made of ¼″ steel plate of special analysis, with width of base equal to height. End of each 10′ section is reinforced by heavy angle welded to base and web, through which beveled steel pins slide into pipe guides, providing connection which aligns forms and maintains alignment during paving operation. Secondary staking system is provided to give additional lateral support to form in soft subgrades. Heavy perforated steel bar supported by stake pockets and welded to them provides rigid support for ends of pavement dowel bars. Spacing of holes in support and in web of form can be varied to meet specifications.



Blaw-Knox airport paving form

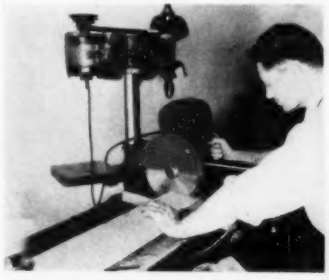
Masonry Water Repellent—*The Wurdack Chemical Co., St. Louis 9.* Silicone masonry water repellent is marketed under name "Crystal." Advantages of silicone repellent, manufacturer states, are that it is practically unchanged by heat or cold, protects mortar joints and prevents seepage through above-grade brick, stucco, concrete block and other masonry materials, prevents efflorescence, staining and spalling. Silicone product lines pores of masonry without sealing or clogging them and is invisible after application.

Hoist—*The Lug-All Co., 331 E. Lancaster Ave., Wynnewood, Pa.* "Longlift" accessory for "Lug-All" hoist permits lifting equipment, materials as high as 30′. It combines 2 pulley blocks from "Lug-All" and 30′ of 3/16″ aircraft cable. Hoist remains on ground and "Longlift" is suspended overhead. Capacity is 750 lbs. and minimum distance between hooks is 10″.

Heat Machine—*Fageol Heat Machine Co., 5725 Mt. Elliott Ave., Detroit 11.* Model PW-140 140,000 B.T.U. heat machine for indoor or outdoor use, blows heat out of base along floor, creating 6′ high heat blanket. Heat is sprayed from all sides of machine. It is designed to heat areas up to 3,000 sq. ft. of confined space or 1,600 sq. ft. of open space. Model PW-200, 200,000 B.T.U., is also available. Machines burn regular furnace-type fuel oil of No. 3 or lighter grades, or kerosene. Model PW-140 requires no flue or chimney. It has attached 6-gal. fuel tank and is equipped with wheels for portability as hand truck. Dimensions are 21″x33″x58″, weight is 245 lbs. Burner is UL-approved gun type, pressure atomizing. It is started or stopped by snapping switch.

Nailing Machine—*Nu-Matic Nailer, Inc., 2900 Rowena St., Los Angeles 39.* Pneumatic nailing machine for nailing sub-floors and roof sheathing is operated by pressing trigger. Air pressure required is 12 cu. ft. at 90 lbs. Automatic cut-off prevents nails being driven too deeply. Nail hopper has capacity of 400 to 600 nails. Nailer, with one operator, will nail minimum of 5,000 sq. ft. per day (1x6 on 16″ centers), manufacturer claims. Machine is available on rental basis.

Saw—*R. W. Hendrick Co., 11 Selman St., Marblehead, Mass.* "Mitermaster" radial arm saw will fit any 2¾″ drill press column and may be swung to one side when not in use without limiting function of drill press. Saw weighs 50 lbs. without motor. It takes saw blades up to 10″. It can be used with motors from ¼ to 1 h.p. While designed primarily for cut-off and dadoing operations, it will perform other operations including rabbeting, plowing and shaping.



"Mitermaster" radial arm saw

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QUANTITY SURVEYS
For
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We Maintain a Large Staff of Engineers Which Assures Speed–Accuracy–Full Detail Reasonable Prefixed Charges

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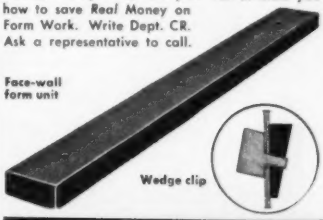
APPRAISALS

ATLAS
SPEED FORMS
CUT LABOR COSTS
Make Big SAVINGS on Every Poured Concrete Job

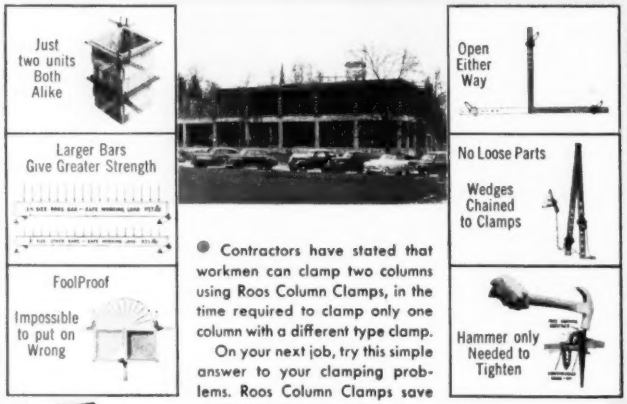
SPEED FORMS can be set up, stripped, cleaned, moved and reused in far less time than wood. Lightweight, easy to handle. No heavy bracing needed. No gadgets or special fastenings—Units go together with wedge clips.
Made of Steel—Good for reuse again and again on job after job indefinitely without repair. Reduce material costs way below wood—Many records of 400-500 and more uses.
Just send us plans of the job. Let us show you how to save *Real* Money on Form Work. Write Dept. CR. Ask a representative to call.



IRVINGTON FORM AND TANK CORP.
20 VESEY ST., NEW YORK 7, N. Y.

Drills—*Portable Electric Tools, Inc., 320 W. 83d St., Chicago 20.* "PET" portable electric drills are offered in ¼", ⅜" and ½" capacities. Drills have bodies of aluminum die castings, dynamically balanced armatures, precision-cut, heat-treated alloy steel gears, forced ventilation. All ¼" models and extra-heavy-duty models of ⅜" and ½" capacities have ball and needle bearings throughout. Drills of ¼" capacity are offered in standard-duty, heavy-duty and extra-heavy-duty with choice of 8 speeds (500 to 5,000 r.p.m. no load). Drill of ⅜" capacity is available in heavy-duty and extra-heavy-duty model with no-load speeds from 400 to 1,000 r.p.m. Drill of ½" capacity is made in standard-duty, heavy-duty and extra-heavy-duty model with speed range of 500 to 600 r.p.m.

CUT COLUMN FORMING IN HALF WITH ROOS COLUMN CLAMPS



● Contractors have stated that workmen can clamp two columns using Roos Column Clamps, in the time required to clamp only one column with a different type clamp.

On your next job, try this simple answer to your clamping problems. Roos Column Clamps save every time you use them.

Rooshors . . . for Saving • Safety • Speed

Rooshors are the proven favorite of contractors from coast to coast. They are instantly adjustable within their range of three sizes—8 ft. to 14 ft.; 7 ft. to 13 ft.; and, 5 ft. to 9 ft. Higher stories are readily shored with the Roos Extension Shore. Rooshors are sturdily constructed, completely safe, yet are light enough for one man to handle with ease.

Rooshors and Roos Column Clamps are available for rental from warehouse stocks in principal cities from coast to coast—for prompt service.

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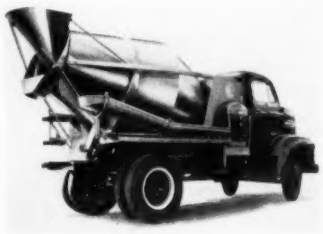
BAKER-ROOS, INC.
602 W. McCARTY STREET
INDIANAPOLIS 6, INDIANA

Light Diesel Truck—*G.M.C. Truck & Coach Division, 660 S. Blvd. East, Pontiac 11, Mich.* Three-cylinder Model D450-37 is 2½-ton unit with 5 available wheelbases for truck or highway tractor models. Truck has maximum geared speed of 54.4 m.p.h. with 9:00/20—10 ply tires. Engine is GM 3-71 of 2-cycle design with direct fuel injection and fuel modulator. New feature is electrically operated shift control for models with 2-speed axles. Axle shift control button is mounted on transmission gearshift lever. Air-actuated hydraulic brake system combines air actuation with advantages of dual-cylinder hydraulic brakes at front and rear.

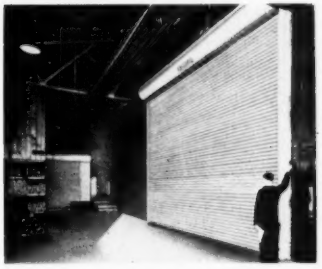
Hoist Brake—*Wilson-Albrecht Co., 3565 Wooddale Ave., Minneapolis 16.* Centrifugal governing friction brake, designed for "Waco" portable elevator and material hoisting tower power units, acts to govern platform descending speed. Called "slow-up" brake, device has braking surface of 33 sq. in. and is contained in aluminum-magnesium housing with high heat-dispersion factor. Brake housing (with fins) lies between gear box and clutch on power shaft.

Truck Mixer—*Construction Machinery Co., P. O. Box 120, Waterloo, Iowa.* New line of "Transcrete" 3-yd. mixer-agitators are of "Thoro-mix" design with full-size mixing blades entire length of drum. Independently mounted, 2-length, hinged discharge chute can be handled by one man and is swung out of way while mixer is in transit or discharging directly for high-level operations. Feature is right-angle drive. This design incorporates standard Ford power unit and transmission close-coupled to modified Ford truck rear axle gearing assembly. By this means 2 mixing speeds are attained—one for high-speed charging and one for lower speed agitating.



Construction Machinery Co.'s "Transcrete" truck mixer

Doors—*Kinnear Manufacturing Co., 650-680 Fields Ave., Columbus 16, Ohio.* Narrow, transparent panes of heavy-duty plastic are now available in one or more of interlocking steel slats of rolling doors that coil upward above lintel, providing more interior light and vision to outside. Rolling doors are constructed of open-hearth steel interlocking slats, heavily galvanized and equipped with end-locks that maintain alignment. Slats are resilient to resist damage from horizontal and vertical forces. Metal curtain travels in steel guides and coils on barrel journaled in heavy-duty brackets. Counterbalancing is provided by helical springs enclosed in barrel. Metal hood covers both barrel and coil. Doors can be equipped for operation manually, mechanically or by motor, with remote control from electric pushbutton stations.

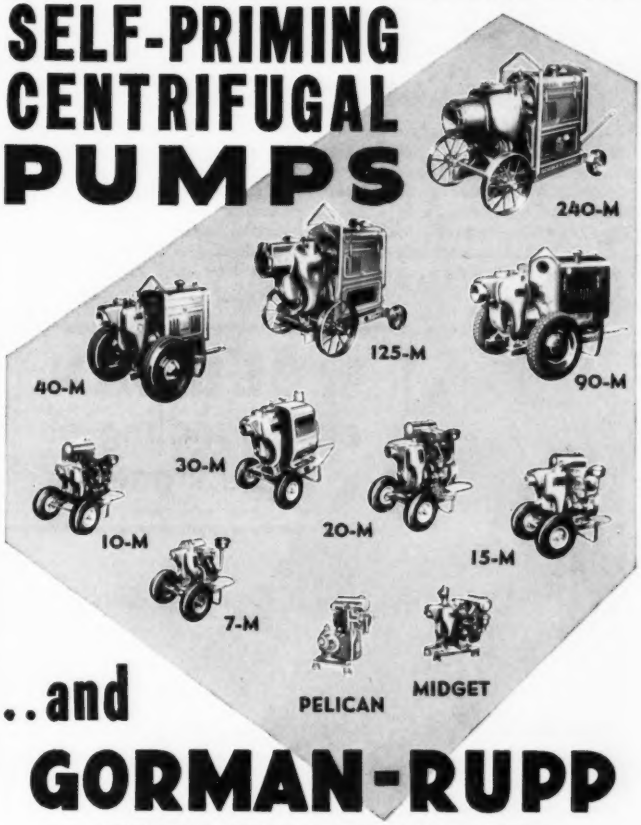


Lookout window built into Kinnear steel rolling door

Loader—*Belsaw Machinery Co., 315 Westport Rd., Kansas City 2.* Portable one-man loader weighs under 150 lbs., handles up to half-ton loads, is operated by 2-speed winch. Extension handle permits loading wide boxes and crates. It is available in 10′ and 20′ lengths.

Graders—*Meili-Blumberg Corp., New Holstein, Wis.* Model 42, single drive, and Model 44, tandem drive, graders in 40 h.p. class weigh up to 15,000 lbs., carry 10′ or 12′ blades. They are available with gasoline or diesel engines, with or without power circle turn, leaning front wheels, blade side-shift, front-end loader, scarifier. Wide selection of tire sizes is offered. Grader is hydraulically controlled. It has 5 travel speeds forward and one reverse. Blade base is 86″, front axle clearance 19″, blade pressure 7,350 lbs.

A COMPLETE LINE OF SELF-PRIMING CENTRIFUGAL PUMPS



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They will handle the toughest jobs and help you to complete your contracts on time and at a greater profit. Save costly time out for repairs.

We can furnish you with any size of self-priming centrifugal pump ranging in capacity from 1½ in., 5,500 GPH to the powerful 10 inch pumping 240,000 G.P.H.

All Gorman-Rupp pumps are guaranteed in plain language. Write us about your pumping problems.

Ask for Contractors' Pump Bulletin 8-CP-11.

GORMAN-RUPP PUMPS — SOLVE YOUR PUMPING PROBLEMS

THE GORMAN-RUPP COMPANY, MANSFIELD, OHIO

Weigh Batch Loader—*Willard Concrete Machinery Sales Co., 2906 Imperial Highway, Lynwood, Calif.* Three cu. yd. weigh batch loader is mounted on tricycle running gear made up of rear automotive-type steering single wheel and fork and 2 front wheels 2½″ diameter axle. Rear steering tire is 8:25x20x10, front driving tires are 9:00x20x10. Operator's bucket-type seat and controls are located to left and rear of chassis. Hopper is constructed of ⅛″ steel plates heavily framed and cradled in heavy tubular weigh arms. Bottom double hopper gates have 10″x12″ opening, manually controlled. Bucket elevator is of chain bucket type with collecting spirals mounted on power retracted boom. There are 16 buckets 24″x8″x6″ with hardened edges mounted on 109″ c. to c. ladder of 2 6″ channels, equipped with 2½″ diameter 12″ stroke hydraulic cylinder. Twin roller type bucket chains have double head and tail sprockets 15″ in diameter. Loader is equipped with Ford industrial 6-cylinder 3.3″x 4.4″ 226 cu. in. 95 h.p. engine. Also available are electric motors.

Masonry Saw—*Clipper Manufacturing Co., Suite 634, 2800 Warwick, Kansas City 8, Mo.* "Convertible" Model HD masonry saw, which is both wet and dry saw, can be converted to concrete or track saw. Cutting head is placed on 4-wheeled cart and equipment is ready for sawing concrete or asphalt patches or trenches. When cart is placed on tracks, stone slabs, plywood, etc., can be placed under tracks and sawed.

Clipper "Convertible" masonry saw

Perlite Standard Mixes

The Perlite Institute has just completed a series of five recommended standard mixes for light-weight insulating perlite concrete. From a chart the architect can determine what wet density, as poured, will develop the desired insulation value. The contractor can determine how much cement, perlite, gallons of water and air-entraining agent must be purchased for each cubic yard of placed concrete.

Copies of the chart are available from the Perlite Institute, 35 W. 53d St., New York 19, N. Y.

WELLMAN
easy handling of large stones

• Those big stones won't slip from the Wellman Stone Grab. Four-part closing cable reeving develops tremendous closing force on stones. Model shown has 5-ton capacity, 4½ foot jaw spread. Other capacities available.

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7000 CENTRAL AVENUE • CLEVELAND 4, OHIO

STONE AND WOOD GRABS • CLAMSHELL, DRAGLINE, CUSTOM-BUILT BUCKETS

Glass Blocks—*Pittsburgh Corning Corp., 307 Fourth Ave., Pittsburgh 22.* Three new patterns of 12″ modular dimension have been added to "55" line functional glass blocks. "Prism A 55" is light-directing glass block for highest light transmittance in non-sun elevations. "Soft-Lite Prism B 55-LX" is light-directing glass block for use in sun elevations, offering brightness-control and reducing heat gain. "Soft-Lite Essex B 55 LX" is light-diffusing glass block for use in stairwells and other areas where well diffused light is required. Two latter blocks feature double-cavity "LX" design for reduced solar heat gain in summer and greater winter heating economy. All blocks have spread-lens face corrugations for wide azimuth daylight acceptance and easy-cleaning face finishes.

Building Panel — *Corrulux Corp., P.O. Box 20026, Houston 25.* Transparent building panel, "Duralux," made of reinforced plastic, is designed to transmit 25 per cent more daylight than company's translucent "Corrulux." Glass fiber reinforcing gives panels flexural strengths in excess of 15,000 p.s.i. and loading capacities of over 100 lbs. per sq. ft. on 4′ span, manufacturer states. "Duralux" is resistant to damp, industrial fumes and heat or cold. It is available in corrugated form to match corrugated roofing and siding sheets of metal or asbestos, and in flat form. It is also available with smooth finish for skylighting, side lighting or windowpane use. Panels can be sawed and anchored to any surface with nails, bolts or screws.

Compressed Air Booklet

Compressed Air Power in Construction is a new engineering study just released by the Committee on Engineering Education of the Compressed Air and Gas Institute. It presents the many uses of compressed air in construction, describes and illustrates air-operated tools used in various operations, explains how that equipment operates and presents methods for measuring the equipment's performance.

The booklet is available from the Compressed Air and Gas Institute, 1410 Terminal Tower, Cleveland 13, Ohio.

Multiply Your Bridge Bid Chances | By 3

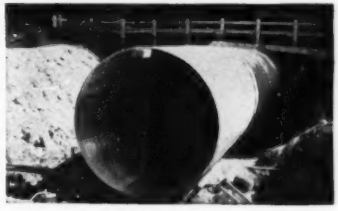
With Armco MULTI-PLATE Structures you have three good chances to be awarded small bridge jobs.

Whether the proposed bridge is for a new installation, replacing a worn-out bridge, or relining existing structures, you can figure the job with Armco MULTI-PLATE Pipe, Arch, and PIPE-ARCH. One of these will prove best for the particular bridge problem—in cost and application.

All three have cost-saving features in common. Each is assembled from pre-curved, corrugated metal sections that are bolted together on the site to form sturdy, full-round pipe, arch or PIPE-ARCH. There is no curing or delay. Handling is easy and the job is done quickly with a small unskilled crew. Installation costs are kept low. These advantages encourage job-getting bids that include a good profit for you.

For smaller drainage installations figure on using Plain Galvanized Armco Corrugated Metal Pipe, PAVED-INVERT Pipe, ASBESTOS-BONDED Pipe, or PIPE-ARCH. All offer installation economies. Write for details. Armco Drainage & Metal Products, Inc., 1702 Curtis Street, Middletown, Ohio. Subsidiary of Armco Steel Corporation.

NEW BRIDGE installations may require MULTI-PLATE PIPE-ARCH, because of limited headroom.



REPLACING worn-out bridges with Armco MULTI-PLATE Pipe frequently can be done without detouring traffic.

RELINING existing structures is often made-to-order for an Armco MULTI-PLATE Arch. A tight fit is easy.

ARMCO DRAINAGE STRUCTURES | ARMCO

Steel Bridge Flooring—*Kerlow Steel Flooring Co., 222 Culver Ave., Jersey City 5, N. J.* Folder presents IQ-35 rectangular steel bridge flooring. Drawings show details of side splice, transverse and longitudinal splices. Text explains value of grating parallel with traffic and transverse to traffic. Installations are illustrated.

Plywood—*United States Plywood Corp., 55 W. 44th St., New York 18.* New *Weldwood Catalog* (Form 1052) contains descriptions, photos, specifications and list prices of softwood and hardwood plywood, doors, plastics and many specialties.

Ladders—*Duraluminum Mfg. Co., 110 W. 34th St., New York 1.* Safety features of new Duraluminum straight and extension ladders are illustrated in new folder. Details of rung construction, siderails, safety locks and safety shoes are shown and explained.

Steel—*International Steel Co., 1906 Edgar St., Evansville 7, Ind.* Catalog entitled *This Is International Steel,* presents facilities and company products in concise form. Photos and descriptions show jobs on which International's steel fabrication, steel building products and other products were used.

Masonry Units—*National Slag Assn., 644 Warner Bldg., Washington 4, D. C.* Manual on slag concrete masonry units provides information on properties of slag and slag-concrete masonry units and presents data to assist in selection of units best suited to particular types of construction. Information is included on slag-concrete units made with air-cooled, granulated, expanded and blended slag aggregate. Illustrations show concrete masonry structures in which slag blocks were used.

Hard-Facing Alloys—*Mir-O-Col Alloy Co., 312 North Avenue 21, Los Angeles 31.* Folder shows hard-facing of bulldozer, tractor and other road machinery parts. Recommended "Mir-O-Col" products for bulldozer blades, tractor drive sprockets, tractor idler wheels, bulldozer trunnions, track rails, tractor grousers, tractor track rollers are listed, and method of welding described. Company's rods and electrodes are listed and their properties given.

SPEED COMPLETIONS...
HELP CONSERVE STEEL
SPECIFY LACLEDE STEEL JOISTS
FOR FLOOR and ROOF CONSTRUCTION and ROOF PURLINS
Framework of Robert Ave. School, St. Louis, Mo. • V. Harry Rhodes, Commissioner of School Buildings • Contractor: Juengel Construction Company

• NO ALLOCATION NEEDED . . . JOISTS ARE NOW A CLASS "B" PRODUCT • AVAILABLE FOR PROMPT SHIPMENT FROM OUR ENLARGED MILL FACILITIES

By using steel joists for roofs and floors you can aid in conserving critical steel for construction *and* help speed your job to completion.

A class "B" product that needs no allocation, Laclede Steel Joists are available for prompt delivery from our expanded mill facilities.

Write for information on the complete line of Laclede quality steels for construction.

LACLEDE
Producers of Steel for Industry and Construction
LACLEDE STEEL COMPANY
St. Louis, Mo.

New Euclid Movies

Two new 16 mm. color sound films have been released by The Euclid Road Machinery Co. One, "More Power to You," a 10-minute film, shows the Euclid twin power scraper at work on coal stockpiling and reclamation. The other, "What's Behind the Euclid Name?" is a 20-minute film that shows the development of Euclid earth-moving equipment from the early days to the present. It also shows views of plant and manufacturing processes and job applications of several different types of Euclid equipment.

The films are available on a no-charge loan basis through Euclid distributors or from the company's Sales Development Department, Cleveland 17, Ohio.

MANUFACTURERS' NOTES

Sydney D. Maddock, president of C.I.T. Corporation, has been elected a vice president of C.I.T. Financial Corporation, parent company of C.I.T. Corporation.

John V. Munro has retired as vice president of Caterpillar Tractor Co. He had been with the company since its formation in 1925 . . . Edward Crossley Lipman, San Francisco business executive, has been named a director of Caterpillar, filling the vacancy created by the recent death of Raymond C. Force . . . T. R. Farley has been named to direct expansion of facilities and operations at Caterpillar's new plant at York, Pa. William L. Naumann succeeds Mr. Farley as general manager of the earthmoving equipment plant at Joliet, Ill., which is being expanded.

Trackson Co. has become a wholly owned subsidiary of Caterpillar Tractor Co. Louis B. Neumiller, president of Caterpillar, will be chairman of a reconstituted Trackson board of directors which will include Walter H. Stiemke, Trackson president, and the following Caterpillar officials: William Blackie, Ralph M. Monk and J. R. Munro.

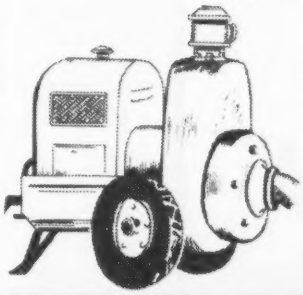
D. M. DeCanio has been named general sales manager of Universal Form Clamp Co. He will also retain his present position as chief engineer.

Poor & Company has appointed W. A. Rundquist director of advertis-

Tractor Conservation

Rebuilding of track link assemblies by the use of an automatic welding process has enabled Caterpillar Tractor Co., through its dealer outlets, to improve its parts conservation program.

Use of the submerged arc welding process for welding various sizes and shapes of materials had already been adapted to the resurfacing of tractor rollers and idlers and its extension to resurfacing track links is the latest development. A completely automatic machine has been developed by specialized manufacturers. Production of the machines is at a low rate at present because of shortages of component parts, but a number have been delivered to Caterpillar dealers who are now operating them on a round-the-clock basis.



Guessing's out—you KNOW the pump you buy will give full performance if it wears the A. G. C. Standard Plate. Pumps wearing the A. G. C. label must meet certain basic standards of pump performance as set up by the Pump Bureau. These standards are approved by the A. G. C. and guaranteed by the manufacturers listed below.

CONTRACTORS PUMP BUREAU
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Munsey Building, Washington 4, D. C.

STERLING MACHINERY CO. Los Angeles, California	**CARVER PUMP CO.** Muscatine, Iowa	**THE JAEGER MACHINERY CO.** Columbus, Ohio
WORTHINGTON PUMP & MACH. CORP. Construction Equipment Division Dunellen, New Jersey	**C. H. & E. MANUFACTURING CO.** Milwaukee, Wisconsin	**MARLOW PUMPS** Ridgewood, N. J.
	CHAIN BELT CO. Milwaukee, Wisconsin	**HOYO ENGINE CO.** Lansing, Michigan
LEYMAN MFG. CORP. Cincinnati 2, Ohio	**CONSTRUCTION MACHINERY CO.** Waterloo, Iowa	**RICE PUMP & MACHINE CO.** Grafton, Wisconsin
BARNES MANUFACTURING CO. Mansfield, Ohio	**THE GORMAN-RUPP CO.** Mansfield, Ohio	**ESSICK MANUFACTURING CO.** Los Angeles, California

ing and public relations. Mr. Rundquist is sales promotion manager of PIONEER ENGINEERING WORKS, a subsidiary of Poor & Company.

JOSEPH T. RYERSON & SON, INC., has acquired the stocks and warehouse facilities of Seattle Steel Company of Seattle and Inland Empire Steel Company of Seattle and Spokane, both of which are in process of dissolution. Acquisition of these facilities brings to 15 the number of Ryerson warehouses and extends Ryerson steel service to the Pacific Northwest.

WAUKESHA MOTOR CO. announces the appointment of Harry J. Lemmer as advertising manager.

Mac H. Hull and James C. McClure have been appointed assistant vice presidents of UNIVERSAL ATLAS CEMENT CO.

L. West Shea of THE UNION METAL MANUFACTURING CO. has been elected president of The Material Handling Institute.

Pierce J. Fleming, manager of MACK MOTOR TRUCK CORP.'s off-highway sales division, has been elected a vice president of the company.

Robert W. Lawrence has been named manager of explosives development for HERCULES POWDER CO., succeeding C. H. Cordic who retired.

MCCULLOCH MOTORS CORP.'s new Los Angeles manufacturing facilities were completed early in January. Capacity of the plant in full production is estimated at 2½ engines per minute.

A. C. Cartwright has been appointed general sales manager of SEAMAN MOTORS, INC.

John W. Schreiber, a veteran of 42 years with ALUMINUM COMPANY OF AMERICA, retired January 1 as chief construction engineer. He will serve until July 1 as special consultant on construction. He has been succeeded by L. B. Kuhns, former general superintendent of construction.

Form Tying Exhibit

Richmond Screw Anchor Co. is reproducing in quantity, for installation in its agents' offices, the display which was awarded honors in the recent New York Chapter Producers' Council Table-Top Exhibit. The display consists of a giant-sized blueprint. Against the detail drawings, mounted in proper assembly position, are actual samples of Richmond form-tying and anchorage devices for concrete construction.

Obituary

Raymond C. Gaugler, 59, president of American Cyanamid Co., died January 11. Mr. Gaugler had been with Cyanamid since 1917, served as assistant treasurer and comptroller and was named treasurer in 1929. In 1939, he became vice president in charge of finance, in 1947 executive vice president. He was elected president January 5, 1951, succeeding the late W. B. Bell.

THE ASSOCIATED GENERAL CONTRACTORS OF AMERICA
SKILL RESPONSIBILITY INTEGRITY

CONTRACTORS' EQUIPMENT OWNERSHIP EXPENSE MANUAL

IN THE NEW 1949 REVISED EDITION

For general contractors and others in the construction industry

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- Includes all important items of equipment as to type and size widely used throughout the contracting industry.
- New, easier-to-read and easier-to-use typographical format.
- Approved by the 30th Annual A. G. C. Convention.

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Name .....

Address .....

City ..... Zone ..... State .....

Manufacturers' addresses are listed on page 87

Aggregate (Light-weight)
Great Lakes Carbon Corp., Building Products Division

Asphalt Plants (Portable)
Barber-Greene Co.
Iowa Mfg. Co.
White Mfg. Co.

Asphalt Tile
Coleman Floor Co.

Axles (Truck)
Eaton Mfg. Co., Axle Division

Backfillers
Bucyrus-Erie Co.
Cleveland Trencher Co.
Gradall Division
Harnischfeger Corp.
Parsons Co.

Batchers
Blaw-Knox Division
Butler Bin Co.
Construction Machinery Co.
Heltzel Steel Form & Iron Co.
C. S. Johnson Co.

Bearings (Anti-Friction, Tapered Roller)
Hyatt Bearings Division
Timken Roller Bearing Co.

Bins
Blaw-Knox Division

Bins—Continued
Butler Bin Co.
Heltzel Steel Form & Iron Co.
Iowa Mfg. Co.
Irvington Form & Tank Corp.
C. S. Johnson Co.
Supremix, Inc.

Bits (Detachable Drill)
Timken Roller Bearing Co.

Bridges
American Bridge Co.
Armco Drainage & Metal Products

Buckets (Clamshell & Dragline)
Blaw-Knox Division
Bucyrus-Erie Co.
Harnischfeger Corp.
C. S. Johnson Co.
Wellman Engineering Co.

Buckets (Concrete)
Blaw-Knox Division
Construction Machinery Co.
Heltzel Steel Form & Iron Co.

Building Papers
Sisalkraft Co.

Buildings (Steel)
Allied Structural Steel Cos.
American Bridge Co.
Armco Drainage & Metal Products

Buildings (Steel)—Continued
International Steel Co.
Macomber, Inc.
Truscon Steel Co.

Bulldozers
Bucyrus-Erie Co.
R. G. LeTourneau, Inc.

Car Pullers
Clyde Iron Works

Carpet
Coleman Floor Co.

Ceilings
Fenestra Building Products

Cement (Common and Special)
Lehigh Portland Cement Co.
Lone Star Cement Corp.
Marquette Cement Mfg. Co.
Universal Atlas Cement Co.

Cement (White)
Trinity White, General Portland Cement Co.
Universal Atlas Cement Co.

Clamps (Hose)
Dixon Valve & Coupling Co.

Compressors
Allis-Chalmers Co.
LeRoi Co.

Concrete Curing Material
Sisalkraft Co.

Concrete Mixers, Pavers, Tampers
Chain Belt Co.
Construction Machinery Co.
Foote Co.
Jaeger Machine Co.
Knickerbocker Co.
Koehring Co.
Kwik-Mix Co.
T. L. Smith Co.
Worthington Pump & Machinery Corp.

Concrete Vibrators
Electric Tamper & Equipment Co.
Vibro-Plus Products, Inc.
White Mfg. Co.

Conveying Machinery
Barber-Greene Co.
Chain Belt Co.
Iowa Mfg. Co.
Link-Belt Co.

Cranes
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Bucyrus-Erie Co.
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General Excavator Co.
Harnischfeger Corp.
Koehring Co.
R. G. LeTourneau, Inc.

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Wherever there's ground water only "Complete" gives COMPLETE assurance of COMPLETE elimination of the hazard. These patented fluted tube wellpoints remove more water faster . . . more easily, more efficiently, most economically!

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COMPLETE WELLPOINT SYSTEMS
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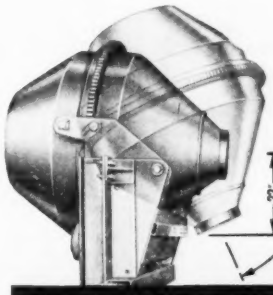

TILT-UP
CLEAN UP with

FOR CONVERTING TO CENTRAL MIX
As it requires less headroom, the TILT-UP SuPREMIXER is the only mixer feasible in most plants. It's easy to install, no raising of the plant or lowering of drive.

FOR A PACKAGE PLANT
Reduced headroom requirement means reduced height, construction and power costs. Efficiently permits dry batch in one lane, central mix in the other.

FOR A SEMI-PORTABLE PLANT
Crane feeding is easy with SuPREMIX. Separate A-frame mounting with bin structures bolted for quick, easy set-up provide real flexibility for your rush defense jobs.

Only the SuPREMIX TILT-UP, 3-3½ yard hydraulically controlled mixer can give you *all* these advantages: lower headroom requirements—steeper discharge of 65°—no segregation—reduced thrust—and virtually fixed discharge. The hydraulic system is part of the unit—no costly compressor to buy. The unique features of this mixer make it the ideal mixer . . .

New TILT-UP Bulletin shows complete details; write today.

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Measured Production When It's A. G. C. Rated

Mixer "output" need no longer be an unknown quantity to architects, engineers and contractors engaged in the serious business of estimating concrete or determining the proper mixing capacity of a drum.

That Is — Not If the Mixer Is A.G.C. Rated . . . For drum sizes and proper mixing capacities are guaranteed on all mixers wearing the A.G.C. label.

Protect yourself — be sure the mixer you buy is A.G.C. rated.

Mixer Manufacturers Bureau

Affiliated with the Associated General Contractors of America, Inc.

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Milwaukee, Wis.

CONSTRUCTION MACHINERY CO.
Waterloo, Iowa

THE FOOTE CO., INC.
Nunda, N. Y.

THE JAEGER MACHINE CO.
Columbus, Ohio

THE KNICKERBOCKER CO.
Jackson, Mich.

KOEHRING COMPANY
Milwaukee, Wis.

KWIK-MIX COMPANY
Port Washington, Wis.

THE T. L. SMITH COMPANY
Milwaukee, Wis.

WORTHINGTON PUMP AND MACHINERY CORPORATION
Construction Equipment Division, Dunellen, N. J.

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Northwest Engineering Co.
Osgood Co.
Thew Shovel Co.

Crushing Machinery
Allis-Chalmers Co.
Austin-Western Co.
Iowa Mfg. Co.

Culverts
Albert Pipe Supply Co.
Armco Drainage & Metal Products

Cutters (Abrasive)
Wodack Electric Tool Corp.

Decking (Roof Steel & Aluminum)
Fenestra Building Products
Macomber, Inc.

Derricks
Clyde Iron Works

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Fenestra Building Products
International Steel Co.
Kinnear Mfg. Co.
R. C. Mahon Co.
Truscon Steel Co.

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Bucyrus-Erie Co.
Harnischfeger Corp.
Northwest Engineering Co.
Osgood Co.

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Bucyrus-Erie Co.
Buda Co.
Timken Roller Bearing Co.

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Wodack Electric Tool Corp.

Elevators (Material)
Chain Belt Co.
Iowa Mfg. Co.
Link-Belt Co.

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American Hoist & Derrick Co.
Buda Co.
Caterpillar Tractor Co.
Continental Motors Corp.
Cummins Engine Co.
Detroit Diesel Engine Division
Harnischfeger Corp.
International Harvester Co.
LeRoi Co.
Wisconsin Motor Corp.

Expansion Joints
Laclede Steel Co.

Financing
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Finishing Machines (Bituminous)
Barber-Greene Co.
Blaw-Knox Division

Finishing Machines (Concrete)
Blaw-Knox Division

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Coleman Floor Co.

Flooring
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Kerlow Steel Flooring Co.
Truscon Steel Co.

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Irvington Form & Tank Corp.
Richmond Screw Anchor Co.
Joseph T. Ryerson & Son, Inc.
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Universal Form Clamp Co.

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Caterpillar Tractor Co.
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W. A. Riddell Corp.

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Iowa Mfg. Co.

Grinders (Electric)
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Hammers (Electric)
Wodack Electric Tool Corp.

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American Hoist & Derrick Co.
Clyde Iron Works
Construction Machinery Co.
General Excavator Co.
Harnischfeger Corp.
McKiernan-Terry Corp.
Osgood Co.

Hose (Air, Water, Steam, Suction)
United States Rubber Co.

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C.I.T. Corp.

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Central Surety & Insurance Corp.
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Jacks
Buda Co.

Joists (Steel)
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Laclede Steel Co.
Macomber, Inc.

Kettles, Heating (Asphalt & Tar)
White Mfg. Co.

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Coleman Floor Co.

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Lubriplate Division

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Supremix, Inc.

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Allied Structural Steel Cos.
American Bridge Co.
Armco Drainage & Metal Products
Bethlehem Steel Co.
L. B. Foster Co.

Pipe
Albert Pipe Supply Co.
Armco Drainage & Metal Products
L. B. Foster Co.
Laclede Steel Co.
Naylor Pipe Co.

Pumps (Contractors')
Barnes Mfg. Co.
C.H.&E. Mfg. Co.

Pumps (Contractors')—Continued
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Marlow Pumps
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Symons Clamp & Mfg. Co.
Universal Form Clamp Co.

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Ceco Steel Products Corp.
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Truscon Steel Co.

Rollers
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Blaw-Knox Division
Bucyrus-Erie Co.
Buffalo-Springfield Roller Co.
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Galion Iron Works & Mfg. Co.
R. G. LeTourneau, Inc.
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Roof Deck (Steel)
Allied Structural Steel Cos.
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White Heating Kettles Have Fire-Proof Tops

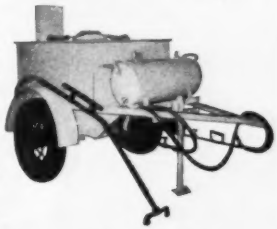
Cut-back and highly inflammable road repair material can be heated safely in White kettles. FIRE-PROOF top reduces fire hazard.

White asphalt and tar kettles are extensively used. They give long life and satisfaction.

Plain kettles or with hand or engine driven spray pumps for patching pavement. Thermometer, barrel hoist, warming hood extra. All oil burning. Semi-elliptic springs, pneumatic tires

65, 110, 165, 220, 300 gallon capacities.

Model F-10 is oil jacketed, to heat elastic joint filler.



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CONCRETE VIBRATORS
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ASPHALT PLANTS
Portable—Stationary

FRONT END LOADERS
for Industrial Tractors

KEROSENE TORCHES
3 to 20 gal. capacities

Write for Circulars and Name of Nearest Dealer

Elkhart 10 White Mfg. Co. **Indiana**

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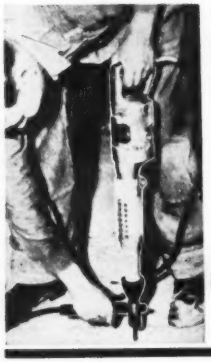

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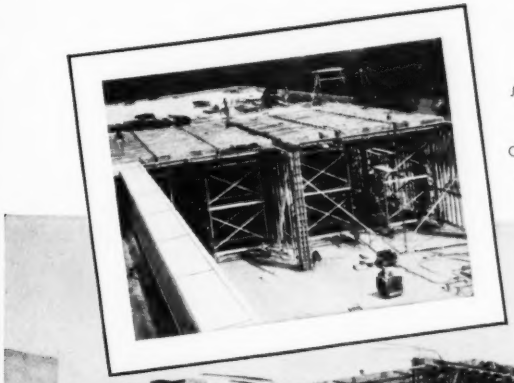

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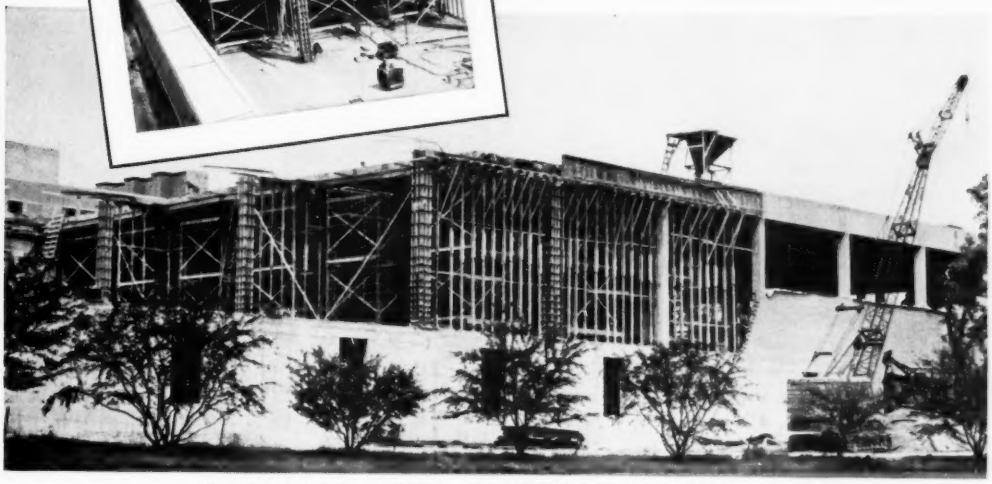

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